Logan International Airport NPDES Permit MA0000787
Response to Comments

Introduction

In accordance with the provisions of 40 C.F.R. §124.17, this document presents the United States Environmental Protection Agency's (EPA's) and the Massachusetts Department of Environmental Protection's (MassDEP) responses to comments received on the Draft NPDES Permit (MA0000787) for the Massachusetts Port Authority's (Massport) Logan International Airport. The responses to comments explain and support the EPA and MassDEP determinations that form the basis of the Final Permit. The Logan Airport Draft Permit public comment period began July 25, 2006 and ended on October 23, 2006. This time period included one 45-day extension of the comment period. A public hearing was held on August 24, 2006. Comments from the permittee, the Co-Permittees, and other parties regarding the Draft Permit and Fact Sheet were received. Since the Fact Sheet is a final document, no changes were made to that document. Instead, comments on the Fact Sheet are addressed in this document, which supplements the Fact Sheet. Each party which submitted written comments or which spoke at the public hearing is listed below. Additionally, EPA attempted to answer unofficial comments raised at the public meetings and comments from Swissport which were received after the end of the comment period. A cross reference for each party's specific comment and location of the response is provided at the end of this introduction.

Massport	Mary Berninger
Delta	Nick Delvento
AirTran Airways	Ed Deveau
JetBlue Airways	Anjie Preston
United Airlines	Pasquale Caruso
Airports Council International	John Vitagliano
Continental Airlines	Thomas Bruno
Northwest Airlines	Ron Hardaway
US Airways	Robert A. DeLeo
LSG SkyChefs	Sal LaMattina
Oxford Airport Technical Services	MC Russo
FMC Technologies – Airport Services	Joanne Cardinelli
ASTAR Air Cargo, Inc.	Gail C. Miller
OneSource Facility Services	Division of Marine Fisheries (DMF)
Aramark Aviation Services Limited Partnership	MA Riverways
Siemens Energy and Automation, Inc.	Coastal Zone Management (CZM)
Swissport (late)	Public Meeting (unofficial)

After a review of the comments received, EPA and MassDEP have made a final decision to issue this permit authorizing this discharge. The Final Permit generally takes the same fundamental approach as the Draft Permit that was available for public comment.

However, EPA's decision-making process has benefited from the various comments and additional information submitted, and EPA has made certain revisions to the permit in response. EPA also has supplemented certain analyses supporting the permit. These improvements and changes are detailed in this document and reflected in the Final Permit. In addition, editorial and formatting changes have been made in places throughout the Final Permit for consistency. A summary of the changes made in the Final Permit is listed below. The analyses underlying these changes are explained in the responses to individual comments that follow, which are identified after each change where applicable. Certain editorial changes to the permit are listed below without the need for and thus without a cross-reference to a detailed analysis.

This permit is being jointly issued by EPA and MassDEP. EPA will generally present responses to comments as EPA's, unless there are particular issues in which MassDEP plays a unique role beyond being a co-issuer of this permit. For most responses where EPA is the agency presenting the response, MassDEP's certification and joint issuance of the permit will establish that the Department agrees with EPA's response.

The Final Permit and this response to public comments are available and can be downloaded from EPA's web site at http://www.epa.gov/region1/npdes/logan/index.html. Copies of the Final Permit also may be obtained by writing or calling EPA's Industrial Permits Branch (CIP), Office of Ecosystem Protection, 1 Congress Street, Suite 1100, Boston, MA 02114-2023; Telephone: (617) 918-1746.

Topics Outline

In this response to comments document, EPA has structured the responses using the topic outline presented below. EPA grouped together supporting and opposing comments concerning each set of issues where EPA received comments. (There are a few topics where comments raised only one perspective.) This outline is designed to structure EPA's responses and make them more accessible to the interested public.

I. Administrative Concerns
II. Permit Compliance
III. General Sampling
IV. Monitoring Specifics
V. Deicing
VI. Monitoring of 44 Runway/Perimeter Outfalls
VII. Similar Permits
VIII. Health Concerns
IX. New Construction
X. Conditions of Surrounding Areas
XI. BMP Plan
XII. Co-Permittees
XIII. General Comments from Permittee and Co-Permittees

Cross Reference for Individual Commenter's Comment and Response Location:

EPA also is providing a cross-reference chart (immediately below) showing each commenter where its particular comments are addressed. EPA has included all original comments verbatim for the reader's convenience. EPA has reviewed each comment in its entirety.

1. Mary Berninger: I.A.1, II.B.1, II.B.5, VI.H.
2. MA Riverways: I.A.2, I.A.3, IV.A.4, IV.A.5-7, IV.A.9, IV.B.3, IV.G.3, V.A.5-8, V.B.1, V.B.3, V.E.8, V.E.10, VI.L, XI.A.1, XI.I.6, XII.I.
3. Public Meeting (unofficial): I.A.4-10, II.A.2-3, II.B.2-3, III.E, III.G, III.I-K, III.M, IV.A.3, IV.A.20, V.A.2-4, V.E.9, VI.G, VI.I-K, VII.C-E, X.A.4-5, XI.F.2.
4. Nick Delvento: I.B.1-2, IV.A.1, IX.A, X.C.1, X.D.1.
5. Ed Deveau: I.B.3, I.C.1, I.D.1, II.A.1, III.A, VI.A, VIII.A, X.A.2-3
6. Anjie Preston: I.A.11, I.B.4, II.A.4-5, III.C, III.L, IV.B.4, IV.G.4, VIII.B, VIII.E, XI.J.23-24.
7. Pasquale Caruso: I.B.5, V.A.1, VI.B, X.B.1.
8. John Vitagliano: I.C.2, I.D.3, III.D, VI.D.
9. Massport: I.D.2, III.F, III.N, III.P, IV.A.10, IV.A.12, IV.B.1, IV.B.5, IV.C.1, IV.D.1, IV.D.3, IV.D.5, IV.D.7, IV.E.1, IV.E.3, IV.F.1, IV.F.3, IV.F.6, IV.G.1, V.A.9-11, V.B.4-5, V.B.8, V.C.1-2, V.C.4, V.D.2, V.E.1, V.E.4, V.E.6, V.E.11, VI.M-N, XI.A.2, XI.B.1, XI.B.4, XI.B.11, XI.C.1, XI.C.5-6, XI.D.1, XI.E.1, XI.F.3, XI.G.1, XI.G.3-4, XI.G.11-12, XI.G.15, XI.G.17, XI.G.19, XI.G.21, XI.G.26, XI.H.1, XI.H.3, XI.H.9, XI.H.11-12, XI.H.15, XI.H.14, XI.H.17-18, XI.I.7, XI.J.1, XI.J.5, XI.J.7-8, XI.J.11, XI.J.13, XI.J.17, XI.J.19, XI.J.25, XI.J.33, XI.K.1, XII.B, XIII.A, XIII.G.
10. Thomas Bruno: II.B.4, III.H.
11. Ron Hardaway: III.B, VI.C, XI.F.1.
12. Delta: III.O, IV.A.11, IV.A.13-17, IV.B.2, IV.B.6, IV.C.2, IV.D.2, IV.D.4, IV.D.6, IV.E.2, IV.F.2, IV.F.4-5, IV.G.2, V.B.2, V.B.7, V.B.9, V.C.3, V.E.2, V.E.5, V.E.7, V.E.12, V.E.14-15, XI.A.3, XI.B.2, XI.B.5, XI.C.3, XI.D.2, XI.E.2, XI.F.4, XI.G.2, XI.G.5, XI.G.20, XI.G.22, XI.H.2, XI.H.4, XI.H.13, XI.H.16, XI.H.19, XI.I.8, XI.J.2, XI.J.4, XI.J.9, XI.J.12, XI.J.14, XI.J.20, XI.J.26, XI.J.34, XI.K.2, XII.B, XIII.B-C.
13. Robert A. DeLeo: IV.A.2, X.A.1.
14. AirTran Airways: IV.A.8, IV.A.18, XI.A.4, XI.B.9, XI.C.2, XI.C.7, XI.F.5, XI.G.8-9, XI.G.18, XI.H.10, XI.J.3, XI.J.22, XI.J.32.
15. Sal LaMattina: IV.A.19, X.B.2.
16. JetBlue Airways: V.A.12, V.B.10, VII.F, XI.B.7, XI.G.25, XI.H.6, XI.J.28, XIII.F.
17. United Airlines: V.B.6, V.B.11-13, XI.B.3, XI.C.4, XI.G.14, XI.H.7, XI.J.16, XI.J.21, XI.J.30, XI.J.36.
18. Airports Council International: V.D.1.
19. Continental Airlines: V.E.3, V.E.13, XI.B.6, XI.G.7, XI.G.16, XI.G.24, XI.H.5, XI.J.27, XIII.E.
20. MC Russo: VI.E.

21. Joanne Cardinelli: VI.F, VIII.C, VIII.D.
22. Gail C. Miller: VII.A-B.
23. Swissport (received late): XI.B.8, XI.J.6, XI.J.18, XI.J.29.
24. Northwest Airlines: XI.B.10, XI.G.10, XI.H.8, XI.H.20.
25. US Airways: XI.G.6, XI.G.13, XI.G.23, XI.J.10, XI.J.15, XI.J.31, XI.J.35, XIII.D.
26. Division of Marine Fisheries (DMF): XI.I.1-2.
27. Coastal Zone Management (CZM): XI.I.3-5.
28. LSG SkyChefs: XII.A.
29. Oxford Airport Technical Services: XII.C.
30. FMC Technologies – Airport Services: XII.D.
31. ASTAR Air Cargo, Inc.: XII.E.
32. OneSource Facility Services: XII.F.
33. Aramark Aviation Services Limited Partnership: XII.G.
34. Siemens Energy and Automation, Inc.: XII.H.

Changes to Permit

Notes: For the purposes of the permit and response to comments, both activities of deicing and anti-icing are referred to generally as "deicing." This document may refer to Massachusetts Port Authority, Massport, Co-Permittees, or the permittee (Massport).

1. *Page 1, the word "DRAFT" has been removed from the title of the document.*
2. *The page numbers have been changed throughout the permit, as appropriate.*
3. *Page 1: Changed to "This permit and authorization to discharge expire at midnight, five (5) years from the last day of the month preceding the effective date." (RTC I.A.4)*
4. *Page 1, the titles of the Attachments to the Permit have been added and the number of pages in Part I and Part II has been corrected. The permit now reads, "This permit consists of 51 pages and Attachment A – Marine Chronic Test Procedure and Protocol, Attachment B – Logan International Airport (Logan) Storm Water Co-Permittee Application, and Attachment C – Current List of Co-Permittees, in Part I, including monitoring requirements, etc., and 25 pages in Part II including General Conditions and Definitions."*
5. *Page 1, the required EPA signature on the first page of the permit has been changed from "Linda M. Murphy" to "Stephen S. Perkins," the current Director of the Office of Ecosystem Protection (OEP).*
6. *Page 2, the unintentional omission of the ASTs and Set-up Tank from the table has been corrected by addition of "ASTs" and "Set-up Tank" to the table in the last column, first row, to read, "ASTs, Fuel Loading Rack, and Set-up Tank."*
7. *Page 2, page numbers have been changed in the table to match the final permit page numbers.*
8. *The numbering of the headings for the footnote sections has been corrected to be consistent with the numbering of the tables. This applies to footnote sections I.A.2-I.A.8.*

9. *Page 2, Outfall 004B has been removed from the table for deicing episode. (RTC V.E.1-3)*
10. *Table at Part I.A.1 and Part I.A.2, the phrase "as specified below" has been added to the permit for clarification purposes.*
11. *Table at Part I.A.1, the flow rate measurement frequency has been changed to "1/Month" and the sample type has been changed to "Estimate." (RTC IV.D.1-2)*
12. *Table at Part I.A.1, the pH discharge limitation range has been changed to "6.0 to 8.5." (RTC IV.E.1-3)*
13. *Table at Part I.A.1, the pH measurement frequency has been changed to "1/Month" and the sample type has been changed to "Grab" (RTC IV.E.1-3).*
14. *Table at Part I.A.1, the benzene maximum daily discharge limitation has been changed to "Report." (RTC IV.F.1-5)*
15. *The Part I.A.1, Footnote 2, has been changed as follows:*
    Flow rate shall be recorded monthly by using the flow model to estimate the flow from outfalls 001, 002, and 004. The flow model shall consist of a hydraulic model of the Logan Airport drainage system, developed by Massport within 180 days from the effective date of the permit. The flow model shall be calibrated based on three months of measured rainfall depths and discharge velocities, including calibration of two storm events (greater than 0.5 inches in 24 hours) where flows at each major outfall and representative perimeter outfalls are measured and where the effects of high tides and sea water infiltration are at a minimum, to the extent practicable. In addition, the calibrated model shall be verified based on a storm event where predicted and measured flows from the outfalls shall be compared. The results of this calibration and verification of the flow model shall be reported to EPA within 180 days from the effective date of the permit. If three storm events do not occur in the necessary timeframe, the permittee may, within 180 days of the effective date of the permit, request additional time to develop the flow model. The flow model shall also be confirmed by periodic monitoring of the actual flow from the outfalls. Prior to completion of the flow model, flow shall be estimated based on the Best Professional Judgment (BPJ) of the permittee. The pH shall be monitored monthly by grab samples taken at representative locations. On a monthly basis, Massport shall report the average monthly flow value and maximum daily flow value for each of the three outfalls, in gallons per day (gpd), and the value of the pH reported as Standard Units (SU), on Discharge Monitoring Report Forms (DMRs) by the 15th of the following month. The monitoring and reporting requirements for the outfalls shall become effective upon the effective date of the permit. (See RTC IV.D.1-2 for the entire footnote language, RTC IV.E.1-3 for pH, III.N-O for replacement of "before" with "by" and IV.C.1-2 for effective date of monitoring requirements)
16. *Part I.A.1, Footnote 3, has been changed as follows, "A monthly grab sample shall be taken during wet weather conditions, if practicable, at each outfall at representative locations of the points of discharge. Wet weather conditions mean during a storm event greater than 0.1 inches in magnitude and that*

occurs at least 72 hours from the previously measurable (greater than 0.1 inch rain fall) storm event." (RTC IV.B.1-2)

17. *Part I.A.1, Footnote 3, has been changed as follows, "The 72-hour interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 72-hour interval is representative for local storm events during the sampling period." (RTC IV.B.5-6)*
18. *Part I.A.1, Footnote 3, has been changed as follows, "The grab sample shall be taken during the first 30 minutes of the discharge. If it is not practicable to take the sample during the first 30 minutes, sample as soon as practicable and describe why a grab sample during the first 30 minutes was impracticable. Submit this information on or with the DMR." (IV.A.6)*
19. *Part I.A.1, Footnote 3, has been changed from "before the 15th of the following month" to "by the 15th of the following month." (RTC III.N-O) This change has been made throughout the permit for clarification purposes.*
20. *Part I.A.1, Footnote 4, has been changed as follows, "A quarterly grab sample shall be taken during wet weather conditions, if practicable, at each outfall at representative locations of the points of discharge. Wet weather conditions mean during a storm event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rain fall) storm event." (RTC IV.B.1-2)*
21. *Part I.A.1, Footnote 4, has been changed as follows, "The 72-hour interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 72-hour interval is representative for local storm events during the sampling period." (RTC IV.B.5-6)*
22. *Part I.A.1, Footnote 4, has been changed as follows, "The grab sample shall be taken during the first 30 minutes of the discharge. If it is not practicable to take the sample during the first 30 minutes, sample as soon as practicable and describe why a grab sample during the first 30 minutes was impracticable. Submit this information on or with the DMR." (RTC IV.A.6)*
23. *Part I.A.1, Footnote 4, the following has been added for clarification purposes, "report on the DMRs separately for each outfall, the maximum daily value for each…"*
24. *Part I.A.1, Footnote 4, the words "and are" have been removed from the phrase "Alternative methods can be used if approved by EPA in writing and are in accordance…" to correct a grammatical error. This correction has been made throughout the permit.*
25. *Table at Part I.A.2, the flow sample type has been changed to "Estimate." (RTC IV.D.1-2)*
26. *Table at Part I.A.2, the pH discharge limitation range has been changed to "6.0 to 8.5." (RTC IV.E.1-3)*
27. *Part I.A.2, Footnote 5, has been changed as follows, "Massport shall monitor the storm water for Outfall 003A for the listed pollutants at representative sampling locations and report the average of all representative sampling*

location results on the Discharge Monitoring Reports (DMRs).” (RTC IV.A.4)

28. *Part I.A.2, Footnote 5, has been changed as follows, “in accordance with the Porter Street Monitoring Plan that will be developed according to Section C.1, below, within 180 days of the effective date of this Permit.” (RTC IV.C.1-2 and formatting change of section numbering)*
29. *Part I.A.2, Footnote 5, has been changed as follows, “The monitoring and reporting requirements shall become effective in 180 days from the effective date of the permit to allow for development of the Porter Street Monitoring Plan.” (RTC IV.C.1-2)*
30. *Part I.A.2, Footnote 7, has been replaced with the following, “Flow rate shall be recorded monthly by using the flow model to estimate the flow from the outfall. The flow model shall consist of a hydraulic model of the Logan Airport drainage system, developed by Massport within 180 days from the effective date of the permit. The flow model shall be confirmed by periodic monitoring of the actual flow from the outfalls. Refer to Part I.A.1 of the permit, Footnote 2, for a complete discussion of the flow model. Prior to completion of the flow model, flow shall be estimated based on the BPJ of the permittee. The pH shall be monitored by grab samples taken at representative locations. On a monthly basis, Massport shall report the average monthly flow value and maximum daily flow value in gallons per day (gpd), and the value of the pH (the average value of all of the representative sampling location results), reported as Standard Units (SU), on DMRs by the 15th of the following month.” (RTC IV.D.1-2 for the entire footnote language and RTC III.N-O for the change from “before the 15th of the following month” to “by the 15th of the following month.”)*
31. *Part I.A.2, Footnote 8, has been changed as follows, “A monthly grab sample shall be taken during wet weather conditions, if practicable, at the representative locations established pursuant to the Porter Street Monitoring Plan. Wet weather conditions mean during a storm event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rain fall) storm event.” (RTC IV.B.1-2)*
32. *Part I.A.2, Footnote 8, has been changed as follows, “The 72-hour interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 72-hour interval is representative for local storm events during the sampling period.” (RTC IV.B.5-6)*
33. *Part I.A.2, Footnote 8, has been changed as follows,” The grab sample shall be taken during the first 30 minutes of the discharge. If it is not practicable to take the sample during the first 30 minutes, sample as soon as practicable and describe why a grab sample during the first 30 minutes was impracticable. Submit this information on or with the DMR.” (RTC IV.A.6)*
34. *Part I.A.2, Footnote 8, has been changed for clarification purposes as follows, “On a monthly basis, Massport shall report on the DMRs the average monthly value (an average of all locations, except O&G, which does not require*

average monthly sampling) and a maximum daily value (the highest of the maximum values from all locations) of the testing results…"

35. *Part I.A.2, Footnote 9, has been changed as follows, "A quarterly grab sample shall be taken during wet weather conditions, if practicable, from the monitoring locations developed in the Porter Street Monitoring Plan. Wet weather conditions mean during a storm event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rain fall) storm event." (RTC IV.B.1-2)*
36. *Part I.A.2, Footnote 9, has been changed as follows, "The 72-hour interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 72-hour interval is representative for local storm events during the sampling period." (RTC IV.B.5-6)*
37. *Part I.A.2, Footnote 9, has been changed as follows, "The grab sample shall be taken during the first 30 minutes of the discharge. If it is not practicable to take the sample during the first 30 minutes, sample as soon as practicable and describe why a grab sample during the first 30 minutes was impracticable. Submit this information on or with the DMR." (RTC IV.A.6)*
38. *Part I.A.2, Footnote 9, has been changed for clarification purposes as follows, "On a quarterly basis, Massport shall report on the DMRs the maximum daily value (the highest of the maximum values from all locations) for all PAHs analyzed for (sum of all PAHs analyzed for) in milligrams per liter (ug/l), by the 15th of the following month at the end of a quarter (Example: Report by April 15 for the January through March quarter)."*
39. *Table at Part I.A.3, the phrase "from plane and pavement deicing activities" has been changed to "from plane and pavement/runway deicing activities" for clarification purposes.*
40. *Table at Part I.A.3, "November" has been replaced with "October" to be consistent with the start of the deicing season. This change has been made throughout the permit.*
41. *Table at Part I.A.3, the requirement to monitor Outfall 004B has been removed from this part of the permit by removal of Outfall 004B from the table. (RTC V.E.1-3)*
42. *Table at Part I.A.3, the phrase "limited and" has been removed from the text, as there are no limits required by this part of the permit, only monitoring.*
43. *Table at Part I.A.3, the measurement frequency for Whole Effluent Toxicity Testing has been change to "1st and 3rd Year DS." (RTC V.E.8)*
44. *Part I.A.3, Footnote 10, has been changed as follows, "Massport shall gather a grab sample at outfalls 001B, 002B, and 003B…" to account for the removal of Outfall 004B from this part of the permit. (RTC V.E.1-3)*
45. *Part I.A.3, Footnote 10, has been changed as follows, "Samples shall be taken during a wet weather deicing episode, if practicable." (RTC IV.B.1-2)*
46. *Part I.A.3, Footnote 10, the phrase "owned by the major airlines" has been removed from the definition of a wet weather episode. (RTC V.A.7)*
47. *Part I.A.3, Footnote 10, has been changed as follows, "The 72-hour interval is waived when the preceding measurable storm did not yield a measurable*

discharge, or if the permittee is able to document that less than a 72-hour interval is representative for local storm events during the sampling period." (RTC IV.B.5-6)

48. *Part I.A.3, Footnote 10, has been changed as follows, "The grab sample shall be taken during the first 30 minutes of the discharge. If it is not practicable to take the sample during the first 30 minutes, sample as soon as practicable and describe why a grab sample during the first 30 minutes was impracticable. Submit this information on or with the DMR." (RTC IV.A.6)*
49. *Part I.A.3, Footnote 10, the phrase "icing season" has been replaced with "each deicing season" for clarification purposes.*
50. *Part I.A.3, Footnote 10, has been changed as follows, "The monitoring and reporting requirements for Outfall 003B shall become effective in 180 days from the effective date of this permit to allow for the development and implementation of the Porter Street Monitoring Plan. The monitoring and reporting requirements for Outfalls 001B and 002B shall become effective upon the effective date of this permit." (RTC IV.C.1-2)*
51. *Part I.A.3, Footnote 10, has been changed for clarification purposes as follows, "For each parameter, Massport shall report the maximum results for each outfall sampled over the two deicing episodes as the maximum daily on the DMRs for Outfalls 001B and 002B, respectively. For Outfall 003B, Massport shall report the highest maximum value from all sampling locations and from all deicing episodes on the DMRs."*
52. *Part I.A.3, Footnote 10, has been changed as follows, "Copies of the laboratory results from the two deicing episodes per deicing season shall be maintained onsite for six years." (RTC VI.N)*
53. *Part I.A.3, Footnote 11, has been changed as follows, "Massport shall perform marine chronic and modified acute toxicity tests at Outfalls 001B, 002B, and 003B once during the first year and once during the third year of the term of this Permit." (RTC V.E.8)*
54. *Part I.A.3, Footnote 11, has been changed as follows, "The grab samples shall be gathered during a wet weather deicing episode, if practicable." (RTC IV.B.1-2)*
55. *Part I.A.3, Footnote 11, has been changed for clarification purposes as follows, "A wet weather deicing episode is defined as when deicing agents are being used on passenger planes during a storm event that produces greater than 0.1 inches of precipitation in magnitude (or the equivalent in snow fall on a mass basis) and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rain fall) storm event."*
56. *Part I.A.3, Footnote 11, has been changed as follows, "The 72-hour interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 72-hour interval is representative for local storm events during the sampling period." (RTC IV.B.5-6)*
57. *Part I.A.3, Footnote 11, has been changed as follows, "The grab sample shall be taken during the first 30 minutes of the discharge. If it is not practicable to take the sample during the first 30 minutes, sample as soon as practicable and*

describe why a grab sample during the first 30 minutes was impracticable. Submit this information on or with the DMR." (RTC IV.A.6)

58. *Part I.A.3, Footnote 11, has been changed from "before May 15th after the deicing season" to "by the 15th of the month following the WET test." (RTC III.N-0)*
59. *Part I.A.3, Footnote 11, has been changed for clarification purposes as follows, "Massport shall sample and report the results separately for Outfalls 001B, 002B, and 003B."*
60. *Table at Part I.A.4, has been changed as follows, "authorized to discharge storm water associated with industrial activity from the Aboveground Storage Tanks berms…" and "(North Outfall for Aboveground Storage Tanks and Fuel Loading Rack Area commingled with the treated water from the Set-up Tank)" and "Such discharges shall be limited and monitored by Swissport, or any future Co-Permittee operating the Centralized Fuel Farm, as specified below." (RTC XI.J.5-12)*
61. *Table at Part I.A.4, the measurement frequency for all parameters has been changed to "1/Month." (RTC XI.J.5-12)*
62. *Table at Part I.A.4, the maximum daily and average monthly discharge limitations for pH has been changed to "Report." (RTC IV.E.1-3)*
63. *Table at Part I.A.4, the maximum daily discharge limitation for benzene has been changed to "Report." (RTC IV.F.1-5)*
64. *Part I.A.4, Footnote 12, has been changed as follows:*
The water from the hydrant vaults and pits which collects in the Set-up tank shall be sampled, as Outfall 001E, after treatment through a unit consisting of an oil/water separator, a filter, and two carbon filters in series, prior to commingling with the water from the bermed areas of the fuel farm (including the AST bermed areas) and the water from the Fuel Loading Rack. The water from the bermed areas of the fuel farm (including the AST bermed areas) and the water from the Fuel Loading Rack combine with the treated water from the hydrant vaults and pits via the Set-up Tank and pass through the oil/water separator located at the fuel farm, as Outfall 001D. This water shall be sampled after treatment with the oil/water separator at the fuel farm, but prior to commingling with any other water passing through Outfall 001. A monthly grab sample shall be taken during discharge, at a location representative of the discharges after treatment, as described above for each outfall. On a monthly basis, Swissport (or any future Co-Permittee operating the Centralized Fuel Farm) shall report on the DMRs the maximum daily value of the testing results by the 15th of the following month. All samples shall be tested using the NPDES approved EPA analytical methods for the designated effluent characteristic in accordance with 40 C.F.R. §136. Alternative methods can be used if approved by EPA in writing, in accordance with the procedures in 40 C.F.R. §136. An estimate of the average monthly and maximum daily amount of storm water released to Outfall 001 shall be reported in gallons. The DMRs shall be submitted to Massport for inclusion with the other DMRs required by the permit for submittal to EPA." (RTC XI.J.5-12)

65. *Part I.A.4, Footnote 12, the following addition has been made, "The monitoring and reporting requirements shall become effective upon the effective date of the permit." (RTC IV.C.1-2)*

66. *Table at Part I.A.5, has been changed for clarification purposes as follows, "and from pavement and runway activities to outfall 005A (Northwest Outfall) and the 44 runway/perimeter outfalls. Representative samples shall be collected from outfall 005 and from 15 percent of outfalls A-1 to A-44. The results of the sampling of 15% of outfalls A-1 to A-44 are to be reported as outfall 006A." The information included in the table text in the draft permit of "and from pavement and runway activities at 15 percent of the outfalls A-1 through A-44 sampled for a total of 7 outfalls. The results of sampling at least 15 percent of outfalls A-1 through A-44 shall be reported as an averaged (except Maximum daily) and reported as outfall 006A," has been incorporated into the footnotes to this permit.*

67. *Table at Part I.A.5, removal of "range" from "report range" regarding maximum daily discharge limitation for pH, for consistency of pH monitoring throughout the rest of the permit.*

68. *Part I.A.5, Footnote 13, has been changed as follows, "On a quarterly basis Massport shall sample the Northwest Outfall 005A and at least 15 percent (a minimum of seven) of the 44 runway/perimeter storm water outfalls (A-1 through A-44) during wet weather conditions, if practicable. Wet weather conditions mean that the samples must be taken during a storm event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rain fall) storm event." (RTC IV.B.1-2)*

69. *Part I.A.5, Footnote 13, has been changed as follows, "The 72-hour interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 72-hour interval is representative for local storm events during the sampling period." (RTC IV.B.5-6)*

70. *Part I.A.5, Footnote 13, has been changed as follows, "The grab sample shall be taken during the first 30 minutes of the discharge. If it is not practicable to take the sample during the first 30 minutes, sample as soon as practicable and describe why a grab sample during the first 30 minutes was impracticable. Submit this information on or with the DMR." (RTC IV.A.6)*

71. *Part I.A.5, Footnote 13, for clarification purposes, remove "during a deicing episode" from description of sampling. Also for clarification purposes, addition of "in order to provide representative samples of the discharge."*

72. *Part I.A.5, Footnote 13, has been changed as follows, "The Perimeter Sampling Plan shall be completed within 180 days of the effective date of this Permit. The monitoring and reporting requirements for Outfall 006A shall become effective in 180 days after the effective date of this Permit to allow for the development and implementation of the Perimeter Sampling Plan. The monitoring and reporting requirements for Outfall 005A shall become effective upon the effective date of the permit." (RTC IV.C.1-2)*

73. *Part I.A.5, Footnote 13, has been changed as follows, "Massport shall report the results of the monitoring at Outfall 005A on one DMR, and on a separate DMR, the average value of the minimum of seven outfalls sampled as average monthly and highest value reported as maximum daily for each quarter." (RTC IV.A.12-13)*

74. *Part I.A.5, Footnote 13, has been changed as follows, "Flow shall be estimated quarterly by using the flow model to estimate the flow from the outfalls. The flow model shall consist of a hydraulic model of the Logan Airport drainage system, developed by Massport 180 days from the effective date of the permit. The flow model shall be confirmed by periodic monitoring of the actual flow from the outfalls. Refer to Part I.A.1 of the permit, Footnote 2, for a complete discussion of the flow model. Prior to completion of the flow model, flow shall be estimated based on the BPJ of the permittee." (RTC IV.D.1-2)*

75. *Table at Part I.A.6. has been changed as follows, "the Permittee and Co-Permittees are authorized to discharge storm water associated* ***with industrial activity*** *from pavement and runway deicing and aircraft deicing. During wet weather deicing episodes, representative samples shall be collected from 15 percent of outfalls A-1 to A-44." (RTC VI.M)*

76. *Table at Part I.A.6, the units "ug/L" have been added in the table for Tolytriazole.*

77. *Part I.A.6, Footnote 14, has been changed as follows, "Samples shall be taken during a wet weather deicing episode, if practicable, as previously defined in Footnote 10, above." (RTC IV.B.1-2)*

78. *Part I.A.6, Footnote 14, has been changed for clarification purposes as follows, replace "icing season" with "deicing season."*

79. *Part I.A.6, Footnote 14, has been changed as follows, "These monitoring and reporting requirements shall become effective in 180 days after the effective date of this Permit to allow for the development and implementation of the Perimeter Sampling Plan." (RTC IV.C.1-2)*

80. *Part I.A.6, Footnote 14, has been changed for clarification purposes as follows, "as the average monthly result, and the maximum results from any of the outfalls as the maximum daily result, as Outfall 006B."*

81. *Part I.A.6, Footnote 14, has been changed as follows, "Copies of the laboratory results from the two deicing episodes per deicing season shall be maintained onsite for six years." (RTC VI.N)*

82. *Table at Part I.A.7, the maximum daily discharge limitation for benzene has been changed to "Report." (RTC IV.F.1-5)*

83. *Part I.A.7, Footnote 15, replace "A monthly grab sample" with "Monthly grab samples" for clarification purposes. This change has also been made at Footnote 17. Also, replace "location of the point of discharge" with "locations of the points of discharge" for clarification purposes.*

84. *Part I.A.7, Footnote 15, addition of "if practicable" to sampling requirements during dry weather. This change has also been made at Part I.A.8, Footnote 17. (RTC IV.B.5-6)*

85. *Part I.A.7, Footnote 15, has been changed as follows, "The 72-hour interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 72-hour interval is representative during the sampling period." (RTC IV.B.5-6)*
86. *Part I.A.7, Footnote 15, has been changed as follows, "The monitoring and reporting requirements shall become effective upon the effective date of the permit." (RTC IV.C.1-2)*
87. *Part I.A.8, Footnote 16, addition of "average monthly and" to sampling requirements to be consistent with sampling requirements of this part of the permit.*
88. *Part I.A.8, Footnote 16, has been changed as follows, "Massport shall develop the Porter Street Monitoring Plan within 180 days of the effective date of this Permit in accordance with Section C.1, below. The monitoring and reporting requirements shall become effective in 180 days after the effective date of this Permit to allow for the development and implementation of the Porter Street Monitoring Plan." (RTC IV.C.1-2)*
89. *Part I.A.8, Footnote 17, the phrase "A monthly" has been replaced with "Monthly" for clarification purposes.*
90. *Part I.A.8, Footnote 17, addition of definition of dry weather conditions from Footnote 15, for clarification purposes, and addition of 72-hour interval waiver from Footnote 15. (IV.B.5-6)*
91. *Part I.A.8, Footnote 17, has been changed for clarification purposes as follows, "except O&G, which does not require average monthly sampling) and maximum daily value (the highest of the maximum values from all locations)…"*
92. *Part I.A.9, the phrase "as the owner operator" has been changed to "as the owner and operator" and "their" has been replaced with "its" when referring to Massport, both for clarification purposes.*
93. *Part I.A.10 has been changed as follows, "For the outfalls with monitoring requirements for Nonylphenol as specified above, Massport shall use ASTM Standard Test Method D 7065 (Determination of Nonylphenol, Bisphenol A, p-tert-Octylphenol, Nonylphenol Monoethoxylate and Nonylphenol Diethoxylate in Environmental Waters by Gas Chromatography Mass Spectrometry), or submit an alternative method to EPA for approval. For the outfalls with monitoring requirements for Tolytriazole, Massport shall use a test method capable of achieving a minimum level (ML) of ≥1 mg/L Tolytriazole." (RTC V.E.11-13)*
94. *Part I.A.11 has been changed as follows, "For the outfalls with pH limits as specified above, the pH of any effluent shall not be less than 6.0 nor greater than 8.5 at any time." (RTC IV.E.1-3)*
95. *Part I.A.14 has been changed as follows, "All procedures implemented pursuant to the permit shall be performed consistently with FAA requirements and considerations of flight safety."*
96. *Throughout the permit, occurrences of DEP have been replaced with MassDEP for clarification purposes.*

97. *Part I.A.19, the phrase "as appropriate" has been added to the first sentence concerning toxicity tests and chemical analyses conducted pursuant to this permit, for clarification purposes.*

98. *Part I.A.19, the following has been added, "Additionally, under the discretion of EPA and MassDEP, a toxicity reduction evaluation (TRE) may be required, as appropriate, in place of effluent limitations, in the event that the permittee is unable to explain the finding of a toxicological impact. Also, under the discretion of EPA and MassDEP, a Toxicity Identification Evaluation (TIE) may be required as a component of the TRE, as appropriate, in order to characterize and identify the cause(s) of toxicity." (RTC V.E.6-7)*

99. *Part I.A.20, the following has been added (RTC II.A.1-4 and RTC III.E-F): "Massport shall make the results of its monitoring available on its web site and provide a copy of each report (including all environmental reports) to the Boston Public Health Commission, City of Boston Environment Department, and the Winthrop Town Manager's office (see contact information below). Additionally, Massport shall notify the Boston Public Health Commission, City of Boston Environment Department, and the Winthrop Town Manager's office of any noncompliance which may endanger health or the environment. Any information shall be provided orally to the municipalities within 24 hours from the time the permittee becomes aware of the circumstances. A written submission to the municipalities shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance (based on reporting requirements to EPA in Part II Standard Conditions).*

Boston Public Health Commission
Environmental Hazards Program
1010 Massachusetts Avenue
Boston, MA 02118
Phone: (617) 534-5965
Fax: (617) 534-9559
and
Environment Department
City Hall Plaza
Boston, MA 02201
Phone: (617) 635-3850
Fax: (617) 635-3435
and
Winthrop Town Manager's Office
Town Hall
1 Metcalf Square
Winthrop, MA 02152
Phone: (617) 846-1077

Fax: (617) 846-5458"

100. *Throughout the permit, "Best Management Practices Plan" has been replaced with "Storm Water Pollution Prevention Plan" and "BMPP" has been replaced with "SWPPP." (RTC XI.A.2-3)*
101. *Part I.B.1, the phrase "and Winthrop Harbor" has been replaced with "or Winthrop Harbor" for clarification purposes.*
102. *Part I.B.1, the phrase "and 4) rubber removal sources" has been added to the permit to be consistent with the rest of the SWPPP requirement and "three" has been replaced with "four" to be consistent with this change.*
103. *Part I.B.1 has been changed as follows, "Pursuant to the SWPPP, BMPs shall be designed and implemented so as to meet the applicable Best Available Technology Economically Achievable/Best Conventional Pollutant Control Technology (BAT/BCT) standards required by the Clean Water Act…" (RTC V.B.4-7)*
104. *Part I.B.1 has been changed as follows, "as well as the following water quality based requirements, at a minimum: 1) Any effluent shall not contain materials in concentrations or in combinations which are hazardous or toxic to aquatic life or which would impair the uses designated by the classification of the receiving waters, and 2) The discharge shall not cause or contribute to a violation of a water quality standard." (RTC IV.A.14-15)*
105. *Part I.B.1 has been changed as follows, "Massport shall complete the SWPPP and distribute the SWPPP to the Co-Permittees* ***within 90 days from the effective date of the final Permit****." (RTC XI.B.1-10)*
106. *Part I.B.2 has been changed to the past tense in reference to the SWCPA that was required to be submitted by each Co-Permittee.*
107. *Part I.B.2 has been changed as follows, "Each Co-Permittee shall develop a SWPPP that is consistent with the Massport SWPPP and which meets the CWA standards set out in Part I.B.1 of this permit, above,* ***within 180 days from the effective date of the final Permit****." (RTC V.B.4-7 for addition of the phrase concerning CWA standards and RTC XI.B.1-10 concerning the change to 180 days)*
108. *Part I.B.2 has been changed for clarification purposes to "The SWPPP for a Co-Permittee shall include a general section for the control of all sources of water pollutants generated by the Co-Permittee and discrete sections for each major source of pollutants if generated by the Co-Permittee…" and the phrase "Co-Permittees shall submit" has been replaced with "Each Co-Permittee shall submit…"*
109. *Part I.B.2, has been changed as follows, "The Massport notification to EPA shall be submitted prior to the date a new Co-Permittee begins operating and no more than 30 days following when an existing Co-Permittee ceases operating at Logan and shall include a revised Attachment C and a signed copy of the SWCPA for each new Co-Permittee." (RTC XI.B.11)*
110. *Part I.B.2, has been changed as follows, "Massport shall require any new Co-Permittee to develop a SWPPP consistent with its SWPPP and which meets the requirements of this final permit within 90 days of submission of the SWCPA." (RTC XI.B.11)*

111. *Part I.B.2, addition of "offices" to the phrase "Massport's Environmental Department offices" and addition of "having" to the phrase "having storm water discharges" for clarification purposes.*
112. *Part I.B.3 has been changed as follows, "Massport shall maintain, update and assure the proper implementation of its SWPPP and all the Co-Permittee's SWPPPs. With respect to the SWPPP, Massport is responsible for its own activities, each Co-Permittee is responsible for its own activities, and Massport has the overall responsibility for coordination and oversight." (RTC XI.C.4-6)*
113. *Part I.B.3, addition of the phrase "meeting the same requirements" to the phrase "meeting the same requirements as described above for Massport" for clarification purposes.*
114. *Part I.B.4, addition of the phrase, "so as to meet the CWA standards set out in Part I.B.1 of this permit" at two places in this part of the permit (RTC V.B.4-7)*
115. *Part I.B.4, replaced "should" with "shall." (RTC XI.A.4)*
116. *Part I.B.4, addition of "occurs" to clarify "maintenance of the runways to remove rubber particles to improve the surface friction levels* **occurs***."*
117. *Part I.B.4, replaced "Environmental Manager" with "Environmental Representative." (RTC XI.C.7) This change has been made throughout the permit.*
118. *Part I.B.5.a.ii, addition of "Regarding" to the title of this section of the permit for clarification purposes. This change was also made at Part I.B.6.b of the permit.*
119. *Part I.B.5.c, replaced with "Re-evaluation of SWPPP." (RTC V.D.2)*
120. *Part I.B.5.g and I.B.5.h, removal from the SWPPP, as these parts of the permit have been moved to Part I.C.1 and I.C.2 of the permit.*
121. *Part I.B.6.c, changed the phrase "3 years from the effective date" to "3 years prior to the effective date" for clarification purposes.*
122. *Part I.B.6.e, addition of the phrase, "so as to meet the CWA standards set out in Part I.B.1 of this permit" (RTC V.B.4-7)*
123. *Part I.B.6.e.ii, addition of "or outside," "are identified," and "(13) maintenance of runways to remove rubber particles to improve the surface friction levels occurs" to be consistent with the other parts of the SWPPP and for clarification purposes.*
124. *Part I.B.6.e.iii, addition of "shall occur" for clarification purposes.*
125. *Part I.B.6.e.iii, addition of the sentence, "This section of the permit excludes wash water from detergent-free power washing activities that are not associated with airplane or ground support equipment related maintenance." (RTC XI.E.1-2)*
126. *Part I.B.6.e.iv, has been changed for clarification purposes as follows, "The SWPPP shall address good housekeeping, which requires the maintenance of a clean orderly facility."*
127. *Part I.B.6.e.v, has been changed to the following, "The nearby storm water discharges shall be tested for pollutants contained in the material spilled, in the event that the spill has reached the storm water drain, within 24 hours*

from the spill as directed by the EPA or the MassDEP during the clean up. Massport is responsible for the sampling and analysis of the storm drain discharge." (RTC XI.F.3-4)

128. *Part I.B.6.e.vi, addition of the phrase, "so as to meet the CWA standards set out in Part I.B.1 of this permit" (RTC V.B.4-7)*
129. *Part I.B.6.e.ix, has been changed to the following, "Along with the quarterly monitoring at the seven out of 44 outfalls by the runways and perimeter of the airport, the discharge at each of the 44 outfalls shall be inspected annually during wet weather conditions…" (RTC XI.G.1-2)*
130. *Part I.B.6.e.ix, addition of the phrase "above in Footnote 3 of Part I.A.1" to clarify the location of the wet weather condition definition in the permit.*
131. *Part I.B.6.e.ix, replaced "standard engineering techniques" with "BPJ" to clarify the method which shall be used to estimate the flow rate.*
132. *Part I.B.6.e.ix, has been changed as follows, "Records of inspections must be maintained for six years." (RTC I.A.3)*
133. *Part I.B.6.e.x, addition of "SWPPP" to the phrase "included in the SWPPP records" for clarification purposes.*
134. *Part I.B.5.e.x, has been changed as follows, "All inspections and maintenance activities must be documented and maintained on site for six years." (RTC I.A.3)*
135. *Part I.B.5.f, has been changed as follows, "Records documenting significant observations made during the site inspection must be retained as part of the SWPPP for six years." (RTC I.A.3)*
136. *Part I.B.5.h, addition of "a release (as defined by 40 C.F.R. § 300.5) of reportable quantities of…" to clarify the definition of a release.*
137. *Part I.B.7 has been replaced with language consistent with the MSGP as follows (RTC V.B.B.4-7 and RTC V.D.2):*

<u>SWPPP for Identifying and Reducing Deicing and Anti-icing Sources</u>

Massport and Co-Permittees that store, handle or apply deicing and/or anti-icing compounds[1] at Logan International Airport shall develop a Storm Water Pollution Prevention Plan for Deicing and Anti-icing Chemicals (DAC). The Plan shall include the following information:

a. Potential Pollution Sources - Each permittee/Co-Permittee must maintain a record of the types of deicing chemicals (including the Material Safety Data Sheets [MSDS]) used and the monthly quantities, either as measured or, in the absence of metering, as estimated to the best of their knowledge. This includes all deicing chemicals, not just glycols and urea, because large quantities of these other chemicals can still have an adverse impact on receiving waters. Co-Permittees that conduct deicing operations must provide a copy of the above information to the airport

1 "Deicing" will generally be used to imply both deicing (removing frost, snow or ice) and anti-icing (preventing accumulation of frost, snow or ice) activities, unless specific mention is made regarding anti-icing and/or deicing activities.

authority (Massport) for inclusion in any comprehensive airport SWPPPs.[2]

b. *Source Reduction - Consider alternatives to the use of urea and glycol-based deicing chemicals to reduce the aggregate amount of deicing chemicals used and/or lessen the environmental impact. Chemical options to replace ethylene glycol, propylene glycol and urea include: potassium acetate; magnesium acetate; calcium acetate; anhydrous sodium acetate.*[3]

c. *Runway Deicing - Operations: Evaluate, at a minimum, whether over-application of deicing chemicals occurs by analyzing application rates and adjusting as necessary, consistent with considerations of flight safety. Also, consider these BMP options (or their equivalents): metered application of chemicals; pre-wetting dry chemical constituents prior to application; installing a runway ice detection system; implementing anti-icing operations as a preventative measure against ice buildup.*[4]

d. *Aircraft Deicing - Operations: Determine whether excessive application of deicing chemicals occurs and adjust as necessary, consistent with flight safety. EPA intends for this evaluation to be carried out by the personnel most familiar with the particular aircraft and flight operations in question (vice an outside entity such as the airport authority). Consider using alternative deicing/anti-icing agents as well as containment measures for all applied chemicals. Also consider these BMP options (or their equivalents) for reducing deicing fluid use: forced-air deicing systems, computer controlled fixed-gantry systems, infrared technology, hot water, varying glycol content to air temperature, enclosed-basket deicing trucks, mechanical methods, solar radiation, hangar storage, aircraft covers, thermal blankets for MD 80s and DC 9s. Also consider using ice-detection systems and airport traffic flow strategies and departure slot allocation systems.*[5]

e. *Management of Runoff - Where deicing operations occur, describe and implement a program to control or manage contaminated runoff to reduce the amount of pollutants being discharged from the site. Consider these BMP options (or their equivalents): a dedicated deicing facility with a runoff collection/recovery system; using vacuum/collection trucks; storing contaminated storm water/deicing fluids in tanks and releasing controlled amounts to a publicly owned treatment works; collecting contaminated runoff in a wet pond for biochemical decomposition (be aware of attracting wildlife that may prove hazardous to flight operations); and*

---

2 MSGP 2000, Part 6.S.5.2
3 MSGP 2000, Part 6.S.5.3.6
4 MSGP 2000, Part 6.S.5.3.6.1
5 MSGP 2000, Part 6.S.5.3.6.2

directing runoff into vegetative swales or other infiltration measures. Also consider recovering deicing materials when these materials are applied during non-precipitation events (e.g. covering storm sewer inlets, using booms, installing absorptive interceptors in the drains, etc.) to prevent these materials from later becoming a source of storm water contamination. Used deicing fluid should be recycled whenever possible.[6]

f. Inspections - Specify the frequency of inspections in the SWPPP. At a minimum, conduct inspections monthly during the deicing season (e.g., October through April for most mid-latitude airports). If deicing is necessary before or after this period, expand the monthly inspections to include all months during which deicing chemicals may be used. Also, if significantly or deleteriously large quantities of deicing chemicals are being spilled or discharged, or if water quality impacts have been reported, increase the frequency of inspections to weekly until such time as the chemical spills/discharges or impacts are reduced to acceptable levels. The Director may specifically require increased inspections and SWPPP reevaluations as necessary.[7]

g. Comprehensive Site Compliance Evaluation - Using only qualified personnel, conduct annual site compliance evaluations during periods of actual deicing operations, if possible. If not practicable during deicing or the weather is too inclement, conduct the evaluations when deicing operations are likely to occur and the materials and equipment for deicing are in place.[8]

138. Part I.B.8 has been replaced with the following (RTC V.D.2, RTC V.B.4-7, and RTC V.B.8-11):

<u>Re-evaluation of SWPPP</u>

a. The SWPPP for deicing shall be re-evaluated after completion of the Water Quality Study described in Part I.D, below, to determine if supplemental BMPs are necessary in order to protect the water quality of the receiving waters. EPA shall be notified of any additions to the SWPPP or any decision not to make additions. The time frame for re-evaluation shall be defined within the SWPPP.

b. Upon finalization of any Airport Deicing Effluent Limitation Guidelines (ELGs), the permittee and Co-Permittees are required to supplement the BMPs developed pursuant to the SWPPP, as necessary, to be consistent with the newly issued ELGs.

139. Part I.B.9, the title has been changed to "SWPPP for Identifying and Reducing Potential Sources of Bacteria." (RTC XI.I.1-6)

140. Part I.B.9.b, addition of "(EPA and MassDEP)" to the phrase "by Massport and regulators (EPA and MassDEP)" for clarification purposes.

---

6 MSGP 2000, Part 6.S.5.3.7
7 MSGP 2000, Part 6.S.5.4
8 MSGP 2000, Part 6.S.5.5

141. *Part I.B.9.c.ii, change from "clam beds" to "shellfish beds" for clarification of sensitive resource areas.*
142. *Part I.B.9.f, has been changed as follows, "Unless a written extension is granted by the EPA and MassDEP, the master schedule must include milestones leading to the identification of all illicit connections, and removal of all identified illicit connections, to be completed within the five year term of this permit. Massport may obtain a written extension from the EPA and MassDEP only if it establishes that the completion of all such work within the five year term of this permit is not feasible. In such event, the EPA and MassDEP will establish in writing a new schedule which will be no longer than necessary to be feasible. The need to accelerate current plans or to expend additional funds will not be sufficient to establish that a five year schedule is not feasible." (RTC XI.I.1-6)*
143. *Addition to Part I.B.9.f, " Massport shall report the results of the program to EPA, MassDEP, Massachusetts Coastal Zone Management (CZM), and Massachusetts Division of Marine Fisheries (DMF) on an annual basis."*
144. *Throughout the permit, most occurrences of the word "eliminate" have been replaced with "reduce" and "eliminating" have been replaced with "reducing." (RTC XI.J.1-3)*
145. *Part I.B.10, the title has been changed to "SWPPP for Identifying and Reducing Discharges from Fuel and Oil Sources." (RTC IV.B.3-4)*
146. *Part I.B.10.a, the title has been changed to "Above Ground Storage Tanks at Fuel Farm." (RTC XI.J.5-12)*
147. *Part I.B.10.a, has been changed as follows, "The accumulated storm water in the large AST bunkers combines with the flow from the fuel loading rack and the treated flow from the hydrant vaults and pits (Outfall 001E) for treatment by the oil/water separator at the fuel farm to discharge as Outfall 001D. The water shall be sampled at a location representative of the discharge after treatment with the oil/water separator at the fuel farm, but prior to commingling with the other discharges through Outfall 001. The discharge shall meet the effluent limits in accordance with Part I.A.4, above, for Outfall 001D." (RTC XI.J.5-12)*
148. *Part I.B.10, throughout, addition of "(or any fuel)" after all occurrences of "JET-A." (RTC XI.J.5-12)*
149. *Throughout the permit, replace "AV-1" with "JET-A." (RTC XI.J.17-19)*
150. *Part I.B.10.c, the following requirement has been removed, "After a storm event, samples shall be taken of the water that collects in the secondary containment. The samples shall be analyzed for oil and grease (O&G), benzene, TSS and pH. An estimate of the amount of water shall be made or the water metered upon removal. The water can be discharged into the facility storm water drainage system if it meets the effluent limits specified in Part I.A.4, page 9, above. Otherwise, the water shall be treated to below the effluent limits before being discharge to the facility storm water drainage system, or be transported and disposed of off-site consistent with all federal and state requirements." (RTC XI.J.5-12)*

151. *Part I.B.10.d, addition of the word "hydrant" to the phrase "from the hydrant vaults and pits of the centralized fueling system." (RTC XI.J.5-12)*
152. *Part I.B.10.d, has been changed as follows, "The water from the hydrant vaults and pits which collects in the Set-up tank shall be sampled, as Outfall 001E, after treatment through a unit consisting of an oil/water separator, a filter, and two carbon filters in series, prior to commingling with the water from the bermed areas of the fuel farm (including the AST bermed areas) and the water from the Fuel Loading Rack for treatment through an additional oil/water separator and subsequent discharge to Outfall 001. The discharge shall meet the effluent limits in accordance with Part I.A.4, above, for Outfall 001E." (RTC XI.J.5-12)*
153. *Part I.B.10.d, addition of the sentence, "Any additional USTs which provide fueling shall require the following BMPs, as defined below." (RTC XI.J.5-12)*
154. *Part I.B.10.e, the title has been changed to "Minimum Requirements for USTs and Loading Rack Area at the Fuel Farm and any other facilities providing fueling." (RTC XI.J.5-12)*
155. *Part I.B.10.e.ix, has been changed as follows "Storm water that accumulates at the loading racks at the fuel farm shall be sampled after commingling with the treated water from the hydrant vaults and pits via the Set-Up tank and after subsequent treatment by the oil/water separator at the fuel farm, prior to commingling with other discharges through Outfall 001, in accordance with the effluent limitations in Part I.A.4 of this permit, above, for Outfall 001D." (RTC XI.J.5-12)*
156. *Part I.B.10.f, has been changed as follows, "(less than Reportable Quantities (RQs) as defined by 40 C.F.R. § 302.4) and major spills…" for clarification purposes and to correct the reference.*
157. *Part I.B.10.f, has been changed as follows, "Each operator of a piece of fueling equipment shall have a communication device available for the purpose of alerting management of any spill. Any major spill shall be reported within 2 hours to the proper authorities in accordance with local, state and federal requirements. (RTC XI.F.1-2)*
158. *Additionally, the managers for a Co-Permittee shall immediately alert the Environmental Representative for Massport, after notifying the proper authorities, upon learning of a major spill." (RTC XI.F.5)*
159. *Part I.B.10.f, has been changed as follows, "All SOPs shall be developed, and approved by Massport,* ***within 180 days of the effective date of the permit.*** *" (RTC XI.B.1-10)*
160. *Part I.B.10.f, has been changed to require documentation of all training be retained for a minimum of six years. (RTC I.A.3)*
161. *Part I.B.10.g, has been changed as follows, "Massport and Co-Permittees must implement…" (RTC XI.J.5-12)*
162. *Part I.B.10.g.i, has been changed as follows, "Describe and implement measures that prevent or minimize the discharge of fuel to the storm sewer/surface waters resulting from fuel servicing activities or other operations conducted in support of the airport fuel system. Consider the following fueling BMPs (or their equivalents): implementing spill and*

overflow practices (e.g., placing absorptive materials beneath aircraft during fueling operations); using dry cleanup methods; and collecting storm water runoff." (RTC XI.J.13-16)

163. *Part I.B.10.g.vi, has been changed to specify that Massport shall post the specified information. (RTC XI.J.31-32)*

164. *Part I.B.10.h, has been changed as follows, "Fluid changes are not considered to be minor maintenance." (RTC XI.J.25-30)*

165. *Part I.B.10.h, has been changed as follows, "Major maintenance activities shall be performed indoors, except in case of an emergency or other compelling circumstances. The emergency or compelling circumstance and details of the maintenance activity shall be documented in the SWPPP files." (RTC XI.J.25-30)*

166. *Part I.B.10.i, has been changed as follows, " Automotive and ground service equipment (GSE) maintenance activities performed on airport property shall be performed indoors in maintenance garages or maintenance facilities, except in case of an emergency or other compelling circumstances or in the case of minor activities as described below. No maintenance activities shall be performed on terminal aprons at any time, except in case of an emergency. The emergency or compelling circumstance and details of the maintenance activity shall be documented in the SWPPP files. Minor maintenance activities are permitted outdoors. Minor maintenance activities include addition of fluids, changing tires, batteries and hoses, and other maintenance activities that do not produce the potential for release of pollutants. Fluid changes are not considered to be minor maintenance. Major maintenance is permitted indoors. Major maintenance includes fluid changes, engine repairs, and engine disassembly." (RTC XI.J.25-30)*

167. *Part I.B.10.i.xi, the following has been removed from this part of the permit, "Drain and crush oil filters (and oil containers) before recycling or disposing." (RTC XI.J.33-36)*

168. *Part I.B.10.i.xvi, has been changed from "aircraft" to "automotive and GSE" to correct an error in this part of the permit relating to automotive and ground service equipment maintenance activities (including washing), as opposed to aircraft maintenance activities, which are addressed separately in the previous section.*

169. *Part I.C, the Porter Street Monitoring Plan and the Runway/Perimeter Storm Water Outfalls Sampling Plan have been moved to this part of the permit, for clarification purposes.*

170. *Part I.C.1, the references to the tables have been changed to "Tables I.A.2, I.A.3, and I.A.8" to account for formatting correction.*

171. *Part I.C.1, has been changed as follows, "Massport has **180 days from the effective date** of this permit to develop and implement the Porter Street Monitoring Plan." (RTC IV.C.1-2)*

172. *Part I.C.2, has been changed as follows, "Massport has **180 days from the effective date** of this permit to develop and implement the Runway/Perimeter Storm Water Outfall Sampling Plan." (RTC IV.C.1-2)*

173. Part I.D, a Water Quality Study has been added to the permit as follows (RTC V.D.2, RTC V.A.4, and RTC V.A.1 concerning Part I.D; RTC IV.A.1, IV.A.2-3, and VI.H-J concerning Part I.D.2; and RTC V.B.2 concerning Part I.D.3):

1. <u>Receiving Waters Analysis and Water Quality Study</u> <u>Report</u>

Massport shall conduct a Water Quality Study consisting of a biological, chemical, and toxicological analysis of Logan Airport's storm water discharges and the resultant receiving water quality in order to characterize the impacts of deicer contained in storm water discharges. The Water Quality Study shall include an analysis of quantities of deicer used and the concentration of deicer chemicals in direct and indirect surface water discharges. In performing this Water Quality Study, Massport shall develop, calibrate, verify, and use a deicer application, fate, and transport model, to predict the location and duration of ambient receiving water deicer chemical concentrations based on deicer use, results of outfall sampling, tidal conditions, and the range of deicer loadings that are likely to occur at Logan Airport. The Water Quality Study shall predict ambient surface water concentrations of deicer chemicals and dissolved oxygen in the receiving waters based on measured outfall concentrations of deicer and the use of the verified application, fate, and transport model. Massport shall also assess the ability of the receiving waters to meet their designated use(s), including an assessment of impacts to aquatic life and fishing, shellfishing, and recreation. The analysis shall take into account the seasonal nature of deicer use activities and storm water flows, including the effects of snow melt. Massport shall submit a plan and schedule for the Water Quality Study to EPA and MassDEP for review and comment within 6 months of the effective date of this permit. Massport shall prepare a Water Quality Study Report presenting the data collected, methodologies, procedures and results of the Water Quality Study and submit the Water Quality Study Report to EPA and MassDEP for review and comment within 24 months of the effective date of this permit. The Water Quality Study Report shall include contour maps and cross-sections depicting the location and duration of ambient surface water concentrations of deicer compounds and dissolved oxygen based on various tidal, storm, and deicer application scenarios. Procedures, assumptions, and protocols used in the Water Quality Study shall be consistent with those of EPA and/or MassDEP, if applicable.

2. <u>Real-time Monitoring of Deicer</u>

To supplement the Water Quality Study, Massport shall conduct real-time (continuous) monitoring of the outfalls, during a deicing episode, with expected contamination of deicers (Outfall 001, 002, 003, and 006) for parameters including temperature, DO, and conductivity, to be representative of a storm event discharge from each outfall. Massport shall conduct and submit the monitoring results to EPA and MassDEP within a time frame established in Massport's plan and shall report and assess the results in the Water Quality Study Report.

3. *Dilution Factor*
To supplement the Water Quality Study, Massport shall calculate a dilution factor for each outfall, for potential use by EPA and MassDEP in order to establish water quality based limits in the future, if necessary. Massport shall calculate and submit the calculated dilution factors to EPA and MassDEP within a time frame established in Massport's plan and shall report and assess the results in the Water Quality Study Report.

174. *Part I.E has been changed for clarification purposes as follows, "as required above by this permit."*

175. *Minor typographical errors have also been corrected throughout the permit.*

RESPONSE TO COMMENTS

I. ADMINISTRATIVE CONCERNS

I.A. COMMENTS RELATED TO GENERAL ADMINSTRATIVE CONCERNS

I.A.1. Comment from Mary Berninger: Also, could the EPA and the Massachusetts Department of Environmental Affairs add to the permit that after the five years have expired for this permit the EPA will begin immediately that next permitting process, that is, not let it linger as you said it would be in effect even though it has expired, and that way we would be able to, I would hope, receive some information back whether or not they were in compliance and what happened.

Response to Comment I.A.1: EPA's regulations state, "[w]hen EPA is the permit-issuing authority, the conditions of an expired permit continue in force under 5 U.S.C. 558(c) until the effective date of the new permit ..." according to 40 C.F.R. §122.6(a). Therefore, the permit will remain in force until a new permit becomes effective.

To effectively implement the NPDES program, EPA prioritizes the reissuing of permits based on many factors and the resources available. EPA cannot guarantee that a new draft permit will be ready for public issuance immediately following permit expiration; however, EPA will receive and review the discharge monitoring reports submitted by Massport during the life of the permit prior to issuance of a new permit. This will help EPA to develop and apply any appropriate new technology limits and/or water quality limitations in the conditions of the next permit.

In response to the request for information about compliance, EPA's Online Tracking Information System is accessible online at http://www.epa.gov/idea/otis/. This publicly accessible system provides facility specific information concerning inspection and enforcement data, notices of violations and enforcement actions, and compliance data.

Change to permit: none.

I.A.2. Comment from MA Riverways: The fact sheet supplies some interesting information about the history of this permit. The Fact Sheet notes the current permit expired in 1983 but there is a significant delay before MassPort submitted an application for renewal, (1992). Was [sic] there any ramifications to or explanation of this nearly decade long lapse between expiration and request for a renewal?

Response to Comment I.A.2: As stated in the Fact Sheet, the current permit was issued on March 6, 1978 and became effective on April 14, 1978. The permit expired on April 14, 1983. The permit was administratively continued as allowed according to 40 C.F.R. § 122.6. As noted in the fact sheet, Massport submitted a complete and timely NPDES application on October 1, 1992 and updated the application on March 20, 2006.

However, the Fact Sheet inadvertently did not note that an application for permit renewal was received from Massport on August 3, 1982. Therefore, the request for permit renewal actually occurred more than the required six months prior to the permit expiration date of April 14, 1983.

Change to permit: none.

I.A.3. Comment from MA Riverways: It might be wise to require records, information associated with the BMP and inspection reports to be kept for longer than 5 years in case permit renewal is delayed. We would like to recommend this information be kept until at least the next NPDES permit is finalized.

Response to Comment I.A.3: Part I.B.6.e.ix of the draft permit stated that records of [visual] inspections must be maintained for 5 years. Part I.B.6.e.x of the draft permit stated that all inspections and maintenance activities must be documented and maintained on site for at least five (5) years. Part I.B.6.f of the draft permit stated that records documenting significant observations made during the site inspection must be retained as part of the BMP Plan for a minimum of five (5) years.

According to Part II of the permit, General Conditions Part C.1, Monitoring and Records, information concerning storm water must be retained for a total of six years from the date of the sample, measurement, report, or application. Therefore, to be consistent with Part II of the permit, these three parts of the Draft permit have been changed.

Part I.B.6.e.ix now states, "Records of inspections must be maintained for six years." Part I.B.6.e.x now states, "All inspections and maintenance activities must be documented and maintained on site for six years." Part I.B.6.f now states, "Records documenting significant observations made during the site inspection must be retained as part of the SWPPP for six years" and "Documentation of all training shall be retained for a minimum of six years and made available upon inspection by EPA or MassDEP."

The revised requirements should help to ensure that all necessary information is available at the time when the next permit is developed. All records during the term of the permit will be available provided the next permit is developed within six years. If the next

permit is developed after more than six years, six years of recent records still will be available. Review of the most recent data, such as data from the previous six years, is typical in permit development. The six year retention period may be extended by the Regional Administrator at any time, in accordance with Part II of the permit, General Conditions Part C.1.b.

Change to the permit: Part I.B.6.e.ix, I.B.6.e.x, and I.B.6.f (at two locations) have been changed to state that the information referred to in each part must be kept for six years. This is a change from the draft permit requirement to maintain the information for five (5) years.

I.A.4. Comment from Public Meeting on 10/5/06: How long is the permit effective?

Response to Comment I.A.4: Once effective, this permit and the authorization to discharge will expire at midnight, five years from the last day of the month preceding the effective date. However, after 5 years, the permit may be administratively continued and remain in force until a new permit is issued.

This is a change from the draft permit requirement that this permit and authorization to discharge expire at midnight, five (5) years from the effective date of the permit. The permit has been changed to require permit expiration five years from the last day of the month preceding the effective date, in order to be consistent with the new Integrated Compliance Information System (ICIS) which replaced the previously used Permit Compliance System (PCS).

Change to permit: Change at page 1 of permit to, "This permit and the authorization to discharge expire at midnight, five (5) years from the last day of the month preceding the effective date."

I.A.5. Comment from Public Meeting on 10/5/06: When does the comment period end?

Response to Comment I.A.5: EPA granted requests for a 45-day extension of the comment period. This extended the original comment period ending date of September 8, 2006 an additional 45-days to end October 23, 2006.

Change to permit: none.

I.A.6. Comment related from Public Meeting on 10/5/06: How will we know if comments/conditions are accepted?

Response to Comment I.A.6: Anyone who submitted comments on the draft permit will receive notification of the availability of both the response to comments and the final permit, following issuance of the final permit. In this document, EPA addressed each comment received and described the reasoning for deciding whether or not to change the draft permit based on the comment.

Change to permit: none.

I.A.7. Comment from Public Meeting on 10/5/06: Can the permit be appealed if a comment is not included?

Response to Comment I.A.7: If you wish to contest any of the provisions of the permit, you must petition the Environmental Appeals Board (EAB) within thirty (30) days from your receipt of a certified mail notice of our decision or within thirty three (33) days from when this notice was sent to you by first class mail. In order to be eligible to petition the EAB, you must have filed written comments on the draft permit during the public comment period or participated in the public hearing. In addition, the issues raised in the appeal must have been raised during the public comment period so long as they were reasonably ascertainable. Any person who failed to file comments or failed to participate in the public hearing on the draft permit may petition for administrative review only to the extent of changes from the draft to the final permit decision. See 40 C.F.R. §124.19

The petition shall include a statement of the reasons supporting review, including a demonstration that any issues being raised were raised during the public comment period (including the public hearing) to the extent required by the NPDES regulations and as applicable, a showing that the condition in question is based on: (i) a finding of fact or conclusion of law which is clearly erroneous or (ii) an exercise of discretion or an important policy consideration which the EAB should review.

Procedures for appealing permits can be found at 40 CFR §§ 124.19, 124.20, and 124.60. More information on the appeals process and EAB filing and service requirements can be found online at http://www.epa.gov/eab/. The Practice Manual can be found online at http://www.epa.gov/eab/pmanual.pdf.

Additionally, the permit may be appealed to the State since the NPDES permit is jointly issued by MassDEP and EPA. According to 314 CMR 2.00:

> Any person aggrieved by the issuance of the permit or final determination may file a request for an adjudicatory hearing relative thereto with the Department. The standing of a person to request a hearing, and the procedures for filing such request shall be governed by the provisions of M.G.L.c.30A and 314 CMR 1.00.

Note that to challenge this permit as issued by both the EPA and Commonwealth of Massachusetts, a person must file two separate appeals (to the EPA and State).

Change to permit: none.

I.A.8. Comment from Public Meeting on 10/5/06: Can permit be put off 1-2 years to collect data on the 44 runway outfalls first?

Response to Comment I.A.8: A few citizens commented that they would like an extension prior to final permit issuance in order to allow time to conduct a study to collect data on the discharges from the 44 runway/perimeter outfalls. EPA determined

that this would not be necessary or appropriate. Rather, EPA believes the better approach is to issue an updated permit now with new improved requirements, while requiring future monitoring which can be used to develop any appropriate future requirements, if warranted. The final permit requires Massport to perform a Water Quality Study, as outlined in Response to Comment V.D.2. Additionally, the permit requires Massport to monitor 15% of the 44 runway/perimeter outfalls in order to collect information to help characterize the storm water. The resulting data will then be analyzed during future permit re-issuance, or the permit can be re-opened, to determine the need, if any, to develop effluent limitations.

Change to permit: none.

I.A.9. Comment from Public Meeting on 10/5/06: Do not wait until monitor 44 outfalls to issue permit, issue as soon as possible.

Response to Comment I.A.9: EPA does not plan to delay issuance of the permit. See Response to Comment I.A.8, above.

Change to permit: none.

I.A.10. Comment from Public Meeting on 10/5/06: Can the videotape recording done by the local Winthrop cable company of the public meeting be used as public comments?

I.A.11. Comment from Anjie Preston: These comments are being submitted, in addition to comments made at the televised meeting at Winthrop Senior Center on Thursday, October 5, 2006.

Response to Comments I.A.10 – I.A.11: The concerns raised at the public meeting on 10/5/06 are not official public comments. The EPA uses the public hearing for that purpose. For public hearings only, the names for each individual commenter are recorded in the public record, and an official transcript is recorded of each oral comment. EPA follows the procedures set forth in 40 C.F.R. §124.12 when holding a public hearing. However, EPA has attempted to address all concerns raised at the public meeting in the response to comments.

Change to permit: none.

I.B. COMMENTS RELATED TO LACK OF PUBLIC NOTIFICATION

I.B.1. Comment from Nick Delvento: Nick DelVento, Town Councilor for the Town of Winthrop, Precinct 3.

I'm never sure where to start, because the Town of Winthrop has several issues. First, the approximately seven or eight of the outfalls are actually in the Town of Winthrop. Fortunately I ran into Councilor LaMattina last week and he notified us of this hearing. The Town of Winthrop really has not been notified of this, and I believe as we're

considered more than an abutter, the property sits in the Town of Winthrop, as well as approximately 20-18 or 20 of the outfalls drain through Winthrop Harbor.

I.B.2. Comment from Nick Delvento: And our other concern is pure lack of notification. The Town of Winthrop knows virtually nothing about what's happening out here. We requested a public hearing be held in Winthrop, that the town be notified, the local paper be used. "The Boston Globe" is a great avenue but a lot of people in Winthrop don't read "The Boston Globe," so as an abutter we really suggest – we recommend and request that a hearing be held as well as an extension of the time frame. As I said, the town of Winthrop really does not know what is happening here and the bulk of the water, everything that's coming out of the East Boston side is coming through Winthrop.

I.B.3. Comment from Ed Deveau (on behalf of Representative Anthony Petruccelli): And also to just touch on what the Councilor from Winthrop and Councilor LaMattina had mentioned, is that there has been really no public notification of this hearing, I know it was in the "East Boston Times" in one of the articles because the writer, the reporter had heard of it through word-of-mouth throughout the community, but there was no formal notification. According to the Councilor from Winthrop, there has been no notification to the Town of Winthrop.

I.B.4. Comment from Anjie Preston: This meeting feels like a back room meeting. Nobody's here because nobody knew about it. We're concerned citizens and residents of this area and if you let us know about an issue and about a meeting that really concerns our health like this emissions does from the airport, we'll be there. Okay? So, if you really want to do something for us, give us more information, allow us time to digest it and be able to give you some real comments because this was pretty much off the cuff.

I.B.5. Comment from Pasquale Caruso: Yes. For the record, my name is Pasquale Caruso, I'm a resident of East Boston. I live at 628 Bennington Street, and I've been there almost – most of my life. And my main concern is up until last week I didn't even know this meeting was going to be here.

Response to Comments I.B.1 - I.B.5: Several individuals commented on what they interpreted as a lack of public notification of the public hearing in East Boston on August 24, 2006. Prior to release of the draft permit, an earlier public informational meeting was held at the East Boston Public Library on June 5, 2006. On July 25, 2006, the public notice of the release of the draft permit and the August 24, 2006 public hearing was published in the Boston Globe. Also, a press release announcing the release of the draft permit for public comment and details about the public hearing and meeting was released to EPA's media distribution list on the same date. Additionally, 111 copies of the public notice and press release were sent to interested members of the community. Any member of the public may ask to be included on the notification list for a particular permit.

To help increase public awareness of the draft permit and in response to comments made at the August 24, 2006 public hearing, EPA scheduled an additional public meeting in

Winthrop on October 5, 2006. Notice of this meeting was sent to attendees of the East Boston meeting and the community list, which amounted to 135 letters. Additionally, a flyer announcing the meeting time and date was supplied to Winthrop Town Hall and posted there, and was also sent to the Town Council Members. An announcement of the meeting was also run on the local Winthrop cable loop, most frequently on Channel 16 and intermittently on Channel 3. In regards to the request for an additional hearing in Comment I.B.2, see also Response to Comment I.C.2. In regards to notification of environmental issues related to discharges from the airport, see Response to Comment III.E – III.F, and Response to Comment II.A.1 – II.A.4.

Change to permit: none.

I.C. COMMENTS RELATED TO REQUEST FOR ADDITIONAL MEETING OR HEARING

I.C.1. Comment from Ed Deveau (on behalf of Representative Anthony Petruccelli): …and the Representative would like to see another meeting held, whether it be in the Orient Heights section or the Jeffries Point section, but just a lot more notification is needed so we can get more people here. Obviously it's August, people are on vacation, we're very slow to the Labor Day holiday, people need to be notified of this so they can have ample opportunity to come and comment. So with that, I would just like to thank you.

Response to Comment I.C.1: In response to this comment and several similar comments received at the public hearing, EPA held an additional meeting. This additional informational meeting was help at the Winthrop Senior Center on October 5th and was an interactive meeting with a chance for EPA to answer any questions attendees had concerning the draft permit. See Response to Comments I.B.1 – I.B.5.

Change to permit: none.

I.C.2. Comment from John Vitagliano: Thank you for the opportunity to comment this evening. My name is John Vitagliano, Vitaliano, as my grandparents used to say, and I live in Winthrop, I'm a resident of Winthrop, and I'm also a former Massport board member. I served as a Massport board member from 1978-1992, so, I have some recollection of the issues at hand from the standpoint of Massport as well. There are many – there are five points that I'd like to make tonight, and I'll try to make them as briefly as I can. As a Winthrop resident, I certainly support Councilor DelVento's request that there be a meeting and hearing in the Town of Winthrop. It is not sufficient to expect Winthrop residents to come to another area. As much as we love our neighbors and friends in East Boston, Winthrop also deserves a public hearing and meeting like this in the Town of Winthrop, and that should be a minimum requirement before this permit is issued. And, by the way, I also support the request – as stated earlier – that additional hearings like this be required in East Boston, particularly in the Orient Heights and the Jeffries Point neighborhoods over and above this, they need to be done as well.

Response to Comment I.C.2: EPA believes that the 45-day extension of the comment period was sufficient opportunity for interested parties to submit comments on the draft permit. EPA accepted all written comments submitted before the end of the extended comment period of October 23, 2006. As noted, above, EPA also held an additional public meeting, which provided further information about the permit, and was intended in part to assist the public in formulating written comments. EPA believes that the extension of the comment period provided adequate opportunity for comment submission and therefore EPA did not deem an additional public hearing in order to record oral comments necessary. See also Response to Comment I.C.1 concerning request for an additional meeting.

Change to permit: none.

I.D. COMMENTS RELATED TO REQUEST FOR EXTENSIONS

I.D.1. Comment from Ed Deveau (on behalf of Representative Anthony Petruccelli): He [Petruccelli] would also like to see the extension of the comment period. He feels there is not adequate time to comment, and he is also very pleased that the Port Authority has decided to support an extension of the comment period as well.

I.D.2. Comment from Massport: The Massachusetts Port Authority (Massport) has received the draft NPDES permit for Logan International Airport and has found that the proposed permit requirements have changed dramatically from the current NPDES permit. The draft permit is also significantly different from the preliminary NPDES permit provided to Massport in 2001.

Since receiving the permit, Massport has had internal discussion as well as discussions with environmental consultants and co-permittees. The consensus is that the proposed permit requirements will have a significant impact on airport operations and consequently, additional time is needed to prepare comments.

One major issue is related to the draft permit requirements associated with deicing practices including the need for data collection, evaluation of current practices, and possible collections/reduction strategies. Deicing at airports is complex, highly regulated by the FAA, critical to public safety, and normally dictated by each air carrier's corporate policy(s). At this time, the feasibility of establishing airport-wide procedures, identifying possible capital improvements and operational impacts, and determining financial impacts of implementing the draft permit conditions related to deicers is unknown. This issue is complicated by the fact that technical data such as deicer concentration, flow rates, and other important water quality data is currently not available.

Additionally, Logan has recently experienced the appointment of a new director of airport engineering (Sam Sleiman – Director of Capital Programs) and the appointment of a new Chief Executive Officer (Thomas Kinton). Last week's terrorist threat and the resulting changes in security screening policies have diverted the senior staff from their

routine duties. Input from senior staff members is critical to assessing impacts of the proposed permit on operations, safety and security.

In summary, in order to provide thoughtful, constructive, and complete comments, Massport is requesting a 45-day extension of the comment period. Thank you for your consideration.

I.D.3. Comment from John Vitagliano: As far as the comment period is – or the comment period extension is concerned, I think 45 days is a step in the right direction but it doesn't address the fundamental issue which is lack of due process we have seen so far. I am not so much concerned about the specific time for the comment period extension; I would be more concerned again with making sure that these additional hearings are required first and then the comment period extension be tagged on after that.

Response to Comments I.D.1 - I.D.3: Massport and several individuals requested an extension of the comment period. EPA granted this request with a 45-day extension of the comment period. This extended the original end of the comment period from September 8, 2006 until October 23, 2006. EPA believes this comment period extension allowed Massport and all interested parties sufficient time to comment on the draft permit. In regards to the request for an additional hearing in Comment I.D.3, EPA determined that the 45-day extension of the comment period end date would provide sufficient time for written comments and therefore an additional hearing to record oral comments was not deemed necessary (See Response to Comment I.C.2).

Change to permit: none.

II. PERMIT COMPLIANCE

II.A. COMMENTS RELATED TO NOTIFICATION OF PERMIT VIOLATIONS

II.A.1. Comment from Ed Deveau (on behalf of Representative Anthony Petruccelli): What notification is given to the community once these toxins are found, we can't have a meeting every 28 years when there's a permit up to tell us "here's what we found and here's what we've been doing for 28 years."

II.A.2. Comment from Public Meeting on 10/5/06: Need to get violations reported to town as soon as possible.

II.A.3 Comment from Public Meeting on 10/5/06: Board of Health and Fire Department needs to know as soon as possible.

II.A.4 Comment from Anjie Preston: Many concerns of area residents who have attended several meetings in East Boston and Winthrop to express such concerns revolve around notification of environmental problems if and when test results are analyzed to reflect elevated levels of pollutants that are routinely monitored and discharged into the Boston Harbor, Boston Inner Harbor and Winthrop Bay. From what residents

understand, there is a huge time lapse [possibly as much as quarterly to six months] in reports to agencies and public with no reporting to residents in surrounding areas mostly affected by resulting analysis.

Response to Comment II.A.1 – II.A.4: Some individuals commented on the need to inform the surrounding municipalities of environmental reports and permit violations as soon as possible. Refer to Comment III.E – III.F for a comment by Massport concerning notification of the municipalities. Massport proposed to make the results of its monitoring available on its web site and provide a copy of each report to the City of Boston and the Town of Winthrop. In response to this offer and the citizen concerns, the final permit will require Massport to make the results of its monitoring available on its web site and provide a copy of each report (including all environmental reports) to the Boston Public Health Commission, City of Boston Environment Department, and the Winthrop Town Manager's office.

In addition, Part II of the permit, General Conditions Part D.1.e(1), currently requires Massport to notify EPA and MassDEP of "any noncompliance which may endanger health or the environment…within 24 hours from the time the permittee becomes aware of the circumstances…A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances."

In addition to notifying EPA and MassDEP, the permit will also require Massport to notify the Boston Public Health Commission, City of Boston Environment Department, and the Winthrop Town Manager's office in the event of violation of "any noncompliance which may endanger health or the environment…within 24 hours from the time the permittee becomes aware of the circumstances" Massport will also be required to submit "a written submission" to the cities "within 5 days of the time the permittee becomes aware of the circumstances." This notification will help to inform the municipalities in the event of health or environmental concerns related to the discharge from the airport in a time efficient manner.

In regards to notifying the Fire Department, Massport is required to notify the Airport Fire Department in the event of a spill. Refer to Response to Comment XI.J.23 in regards to the procedures in the event of a spill. However, a permit violation other than a spill does not warrant notification of the Fire Department.

Change to permit: See Response to Comment III.E – III.F for changes to notification requirements.

II.A.5 Comment from Anjie Preston: It has been suggested that bulletins [via electronic mail, televised through WCAT and/or other means] be distributed to residents within 48 hours of any resulting environmental problems like spills from oil or toxic pollutants.

Response to Comment II.A.5: Bulletins via electronic mail or televised through the local Winthrop cable channel (WCAT) may be an effective way to spread notification throughout the community. The requirement in the final permit for Massport to notify

the Boston Public Health Commission, City of Boston Environment Department, and the Winthrop Town Manager's office of "any noncompliance which may endanger health or the environment…within 24 hours from the time the permittee becomes aware of the circumstances" will enable each municipality to develop an electronic database or a contact with local cable channels (such as WCAT) through which to spread the notification.

Change to permit: See Response to Comment III.E – III.F for changes to notification requirements.

II.B. COMMENTS RELATED TO ACTION UPON VIOLATION

II.B.1. Comment from Mary Berninger: Could public notice also be given for any and all infractions by the Port Authority during the duration of the permit, and could the EPA give public notices of any sanctions as a result of discharging pollutants, because right now I'm not sure that we have a good sense of what those sanctions are, if there ever have been any in the 28 years.

Response to Comment II.B.1: EPA does not deem public notice of every permit violation necessary; however, as set out in Response to Comment III.E and III.F, the final permit will require Massport to make the results of its monitoring available on its website and provide a copy of each report (including all environmental reports) to the Boston Public Health Commission, City of Boston Environment Department, and the Winthrop Town Manager's office along with providing the municipalities with notification of any noncompliance which may endanger health or the environment within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances.

Regarding sanctions as a result of permit violations, EPA may take an enforcement action such as issuing a notice of violation or an administrative order with civil penalties. The most significant and serious violators may face criminal prosecutions which can lead to imprisonment and/or fines. Information concerning inspection and enforcement data, notices of violations and enforcement actions, and compliance data is accessible through EPA's Online Tracking Information System online at http://www.epa.gov/idea/otis/.

MassDEP may address noncompliance by issuing a written notice alleging noncompliance (such as a Notice of Noncompliance, a Field Notice of Noncompliance, an administrative order, or an administrative consent order) or by assessing an administrative penalty.[9]

Change to permit: See Response to Comment III.E – III.F for addition of Part I.A.20 to the permit.

II.B.2. Comment from Public Meeting on 10/5/06: How does EPA know if CDM finds a violation?

9 Enforcement Response Guidance (Policy ENF-97.001, April 1997)

II.B.3. Comment from Public Meeting on 10/5/06: What happens if there are violations?

II.B.4. Comment from Thomas Bruno: If there is a high level of pollutants, if it exceeds the level that the EPA allows, what happens?

Response to Comments II.B.2 - II.B.4: Massport is required to submit monitoring data, including any violations, on monthly discharge monitoring reports (DMRs) to EPA and MassDEP. When violations are discovered, EPA and/or MassDEP may take enforcement action as described above in Response to Comment II.B.1. See Response to Comment III.E – III.F for addition of Part I.A.20 to the permit concerning notification requirements.

Change to permit: None, but see Response to Comment III.E – III.F for changes to notification requirements.

II.B.5. Comment from Mary Berninger: My name is Mary Berninger. I live in the Bays Water section. My comments have to do with I would like to see conditions of issuance to the Port Authority. Could we be given some assurances that oversight by the EPA will be frequent and detailed enough to satisfy residents of surrounding communities that Massport is in compliance?

Response to Comment II.B.5: Inspections of facilities with NPDES permits are performed by EPA New England's enforcement program. Compliance with the law is also determined by reviews of monitoring and other reports. EPA New England's enforcement program helps protect human health and the environment by aggressively enforcing environmental laws and regulations. However, EPA cannot commit in advance to any particular schedule for review and/or inspection of the Logan Airport facilities, since this will depend on the resources available and the extent of competing environmental priorities.

Additionally, MassDEP coordinates its Surface Water Discharge Permit Compliance and Enforcement activities with EPA primarily through quarterly EPA/MassDEP Regional Compliance and Enforcement meetings. The EPA Compliance and Enforcement Tracking Systems are used to prioritize each agency's Compliance and Enforcement activities. Inspections and other enforcement activities are reviewed at each quarterly meeting with the status of each facility updated and follow-up inspections and/or enforcement actions decided to ensure the violations at each facility are addressed and resolved in a timely manner. Lists of potential enforcement actions are reviewed quarterly and inspections are scheduled based on violations and other EPA and MassDEP priorities. Further information concerning compliance can be found on MassDEP's website at http://www.mass.gov/dep/water/priorities/swcomwp.htm.

Change to permit: See Response to Comment III.E – III.F for changes to notification requirements.

III. GENERAL SAMPLING

III.A. Comment from Ed Deveau (on behalf of Representative Anthony Petruccelli): I'm sure my chemistry teacher at Savey would be a little upset at me, but you've mentioned chemicals and certain toxins and this, that and the other thing. However, a lot of us aren't very familiar with what these chemicals are. It's great to come here and read them and see them. We don't know what that does.

Response to Comment III.A: Information on toxins can be found on the Agency for Toxics Substances and Disease Registry (ATSDR) website using ToxFAQs at the website listed below. The ATSDR ToxFAQs™ is a series of summaries about hazardous substances developed by the ATSDR Division of Toxicology. Information for this series is excerpted from the ATSDR Toxicological Profiles and Public Health Statements. Each fact sheet serves as a quick guide. Answers are provided to the most frequently asked questions (FAQs) about exposure to hazardous substances and the effects of exposure on human health (http://www.atsdr.cdc.gov/toxfaq.html#bookmark05).

Change to permit: none.

III.B. Comment from Ron Hardaway: Ron Hardaway, 118 Bays Water Street, East Boston. The first thing I'd like to speak to has to do with the readings. I've had meetings with Massport on other pollution matters, basically air and particles, and they say it's within limits, or we don't have any limits to discuss, or it's not significant, and we're not going to take that any more. We would like to know in English what it is, what the limits are, and have some way during the season, especially at Constitution Beach, there's a lot of activity there, whether it's in violation or not. They've spoken to that other ways, but we have never been able to get answers, hard answers, people that are – answers that people can understand.

III.C. Comment from Anjie Preston: But, I'd be happy – I'm going to read through the documents that you've distributed today, and I hope that they do have more information in it than the usual gibberish that we get from general agencies because we aren't politically minded in the general form, we are residents. We're people, we're human beings. We don't all have degrees to be able to decipher this information that you're giving us, so it would be nice if we had information in laymen's terms and information that we understand with plain numbers, you know, plain numbers, are very easy to read. Even a pie chart is something that can tell us our area compared to other areas, what our levels are based on what we – what the water – what the emissions are in this area. So, those are the types of things that we need to have. We're not going to settle for anything less. If you guys want a permit from us and we have something to say about it, that's what we need in order for you guys to get our permission to have a permit here, because otherwise you guys can just pack up your bags. Thank you.

III.D. Comment from John Vitagliano: And, again – oh, one other requirement I would formally request be in the permit itself be a simplification – again, as Mr. Hardaway had indicated earlier, and others – that the current reporting of the levels of toxins that are

currently measured and monitored going into the harbor are very complex, very, very difficult for the average citizen to decode, so to speak, so that one of the things that I would request that Massport be required as part of their reporting of the effluent levels going into Winthrop and East Boston Bays be done on an aggregate basis, on an annual aggregate basis, so that we would have, for example, at the end of every year a reporting of the total amount of effluent going into Winthrop and East Boston Bays from the total of the 44 outfalls that we have in some sort of a much more readable format than now exists. Thank you for your time, sir.

Response to Comments III.B – III.D: EPA agrees that the amount of information about environmental sampling results and its significance can be complex and daunting. Therefore, in the permit, EPA has attempted to make permit requirements clear by summarizing the conditions of the permit in the tables of effluent limits and monitoring requirements and has also including a summary of the location in the permit where the tables can be found according to part of the permit and page number. Additionally, EPA conducted two interactive informational meetings in an attempt to help clarify the limits established in the draft permit and to answer any questions concerning the permit.

In response to the request for reporting of annual aggregate data, Massport produces a publicly available Environmental Status and Planning Report (ESPR) every five years, and publicly available Environmental Data Reports (EDRs) in the interim years. The EDR includes a chapter summarizing water quality and environmental compliance throughout the year, which includes a section on storm water management which summarizes the data collected under the NPDES permit throughout the year as well as a section on fuel use and spills, tank management, and site assessment and remediation. Analytical data collected throughout the year under the NPDES permit is provided in an appendix to the report.

In response to accessing information concerning conditions at Constitution Beach, daily data, organized by beach and year from three DCR sampling locations at Constitution Beach, can be found online at http://www.mwra.state.ma.us/harbor/html/beachdata.htm. This information is from daily testing of Constitution Beach at three locations, the North Beach, the Bathouse (Middle Beach) and the South Beach (Recreation Center), by DCR with assistance from MWRA. Additionally, information on the accessibility of beaches, including Constitution Beach is available through the Department of Conservation and Recreation (DCR). The flag on the beach is the most accurate condition of water quality, based on the latest test results available. Furthermore, the DCR Beaches Hotline can be reached at 617-626-4972 and information about beach water quality can be found online at the DCR website (http://www.mass.gov/dcr/waterQuality.htm).

More generally, links to data and reports from MWRA sampling points in Boston Harbor can be found online at http://www.mwra.state.ma.us/harbor/html/bh_wq.htm#alldata. Graphs of Historical Sampling Results and the Geometric Mean Trend for Massachusetts beach sampling locations can be found online at http://mass.digitalhealthdepartment.com/public_21/beaches.cfm?bID=11963&func=details.

Change to permit: None, but see Response to Comment III.E – III.F concerning Massport Annual Report.

III.E. Comment from Public Meeting on 10/5/06: Request for periodic reports by Massport and EPA (every 6 months or so) to Town of Winthrop.

III.F. Comment from Massport on § I.C Monitoring and Reporting (Pg. 43): In response to comments at the public hearing, Massport will make the results of its monitoring available on its web site and provide a copy of each report to the City of Boston and the City [sic] of Winthrop.

Response to Comments III.E & III.F: According to Massport, it currently produces a publicly available Environmental Status and Planning Report (ESPR) every five years, and publicly available Environmental Data Reports (EDRs) in the interim years. The ESPRs and EDRs have replaced the former GEIR/Annual Updates. Key sections of the ESPR/EDRs address Logan activity levels, Logan planning initiatives, regional transportation context, ground transportation improvement, noise abatement, air quality emissions reduction, water quality management, and environmental mitigation tracking. The documents also provide updates on the status of current Logan construction projects. The most recent Logan ESPR is posted on this website and can be viewed online at http://www.massport.com/about/pdf/edr05/TableOfContents.pdf.

EPA has added a requirement to Part I.A.20 of the final permit as follows:

> Massport shall make the results of its monitoring available on its web site and provide a copy of each report (including all environmental reports) to the Boston Public Health Commission, City of Boston Environment Department, and the Winthrop Town Manager's office (see contact information below). Additionally, Massport shall notify the Boston Public Health Commission, City of Boston Environment Department, and the Winthrop Town Manager's office of any noncompliance which may endanger health or the environment. Any information shall be provided orally to the municipalities within 24 hours from the time the permittee becomes aware of the circumstances. A written submission to the municipalities shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance (based on reporting requirements to EPA in Part II Standard Conditions).
>
> Boston Public Health Commission
> Environmental Hazards Program
> 1010 Massachusetts Avenue
> Boston, MA 02118
> Phone: (617) 534-5965

Fax: (617) 534-9559

and

Environment Department
City Hall Plaza
Boston, MA 02201
Phone: (617) 635-3850
Fax: (617) 635-3435

and

Winthrop Town Manager's Office
Town Hall
1 Metcalf Square
Winthrop, MA 02152
Phone: (617) 846-1077
Fax: (617) 846-5458

Change to permit: Addition of Part I.A.20 to the permit (see above). Refer to Response to Comment II.A.1- II.A.4 concerning notification of violations.

III.G. Comment from Public Meeting on 10/5/06: Who monitors Massport's sampling?

III.H. Comment from Thomas Bruno: For the record, my name is Thomas Bruno. I'm a resident at 21 Annavoy Street in East Boston at Orient Heights. I'm also the Chairperson of the Orient Heights Neighborhood Council.

One of my main concerns is over the years Massport has been self-monitoring these drainage units, and who checks on Massport beyond their own self-monitoring? What's the policy beyond the monitoring? And that's all I would like to say. Thank you.

Response to Comment III.G & III.H: Massport self-monitors its sampling in accordance with an approved plan. Massport is required to collect representative samples and use a certified lab to test the samples. Each sample must never leave the chain of custody. The data from the tests are recorded on Discharge Monitoring Reports (DMRs) which must be submitted by the 15th of the month following the sampling event. EPA and MassDEP review the data, audit the labs, and perform random inspections, during which they can take their own samples rather than only relying on Massport samples.

Data falsification is punishable by enforcement actions, including criminal prosecution. As stated in Part II of the permit, General Conditions Part C.1.e, the CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more that $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first

conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more that 4 years, or both.

Additionally, Part II of the permit, General Conditions Part A.1.b, states that the CWA provides that any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any such sections in a permit issued under Section 402 is subject to a civil penalty not to exceed $25,000 per day for each violation. Any person who negligently violates such requirements is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both. Any person who knowingly violates such requirements is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

Change to permit: none.

III.I. Comment from Public Meeting on 10/5/06: How is monitoring done? Do they sample the actual discharge?

Response to Comment III.I: Depending on the type of test, the sampling techniques vary. In Parts I.A.1 – I.A.8 of the permit, the sample type and location are specified for each wastewater constituent monitored. Generally, it is the actual discharge that is sampled.

Change to permit: none.

III.J. Comment from Public Meeting on 10/5/06: Does EPA require duplicate sampling and or testing (split samples)?

Response to Comment III.J: The draft permit did not require split samples and EPA has not included a requirement for split samples in the final permit. As noted above, however, EPA and MassDEP may take their own samples during inspections rather than only relying on Massport samples.

Change to permit: none.

III.K. Comment from Public Meeting on 10/5/06: What's the difference between use and a spill?

Response to Comment III.K: The word "use" means to make something serve one's purpose. For example, in the case of deicer, "use" is applying the deicer in a manner which serves the purpose of deicing. A spill is an accidental release of pollutant and must be dealt with by Spill Prevention Control and Countermeasure (SPCC) plans under Section 311 of the CWA. According to Part I.B.6.g of the permit, any part of this plan may be incorporated into the SWPPP by reference.

Part I.B.6.e.v of the permit [as modified - see Response to Comment XI.F.3 – XI.F.4] requires as part of the SWPPP, a Spill Prevention and Response Procedure which states, "The nearby storm water discharges shall be tested for pollutants contained in the material spilled, in the event that the spill has reached the storm water drain, within 24 hours from the spill as directed by the EPA or the MassDEP during the clean up." Refer to Response to Comment XI.J.23 for more information about spills.

Change to permit: none.

III.L. Comment from Anjie Preston: Outfall monitoring needs to include Constitution Beach and the area along Bayswater Street in East Boston across from Logan International Airport.

Response to Comment III.L: EPA believes that the monitoring of the main outfalls and 15% of the 44 runway/perimeter outfalls will serve to characterize the actual discharge from Logan, more so than monitoring at Constitution Beach or at Bayswater Street across from the airport. EPA expects that the concentration of pollutants in the discharge from Logan would be more concentrated at the runway/perimeter outfalls than at Constitution Beach or Bayswater Street, after the discharge has been diluted with water from the surrounding harbor. However, as noted above, in the Response to Comments III.B – III.D, monitoring of Constitution Beach is done by the DCR.

Change to permit: none.

III.M. Comment from Public Meeting on 10/5/06: The lag time on testing and reporting is too long.

Response to Comment III.M: Although Massport is not required to submit its Discharge Monitoring Report (DMR) to EPA until the 15th of the month following sampling, Massport is required to notify the EPA and MassDEP of "any noncompliance which may endanger health or the environment…within 24 hours from the time the permittee becomes aware of the circumstances." The final permit also requires Massport to notify the Boston Public Health Commission, City of Boston Environment Department, and the Winthrop Town Manager's office in the event of this situation. This will reduce the lag time between testing and actual notification of the municipalities in the event of a permit noncompliance which may endanger health or the environment. Allowing standard times for testing and reporting for other DMR information is reasonable, and avoids the problems and costs that could be caused by rushing test results. Refer to Response to Comment III.E – III.F for information about notification requirements.

Change to permit: Refer to Response to Comment III.E – III.F concerning notification requirements.

III.N. Comment from Massport on § I.C Monitoring and Reporting (pg. 43): The requirement that Massport must report by the 15th of each month following the sampling

period is unreasonable. Massport requests to report by the 30th of each month following the sampling period.

III.O. Comment from Delta: The DMR deadlines require reports by the 15th of each month following the sampling period. As analysis periods for some samples may be lengthy and availability of reporting information for some analytes may take up to two weeks or more, the permit should clarify EPA's expectations regarding timing of reporting. For example, for some analytes samples would have to be collected by the 20th of the previous month to meet a reporting deadline of the 15th of the following month.

Response to Comments III.N – III.O: Submission of DMRs by the 15th of the month following the previous month sampling period is a standard requirement for NPDES permits. Other discharges have found reasonable methods for compliance, including negotiating with labs for timely reports and taking samples sufficiently early during a month to ensure timely reporting. The DMR submission date in the draft permit remains unchanged in the final permit as the 15th day of the following month.

For clarification purposes concerning the DMR submission date prior to the 15th of the month, but not necessarily on the 15th of the month, the phrase "before the 15th" has been replaced with "by the 15th" in Part I.A.1 (Footnotes 2, 3, and 4), Part I.A.2 (Footnotes 7, 8, and 9), Part I.A.3 (Footnote 11), Part I.A.4 (Footnote 12), Part I.A.5 (Footnote 13), Part I.A.7 (Footnote 15), and Part I.A.8 (Footnote 17) of the permit. Additionally, for the same clarification purpose, "on April 15" has been replaced with "by April 15" in Part I.A.1, Footnote 4, Part I.A.2, Footnote 9, and Part I.A.5, Footnote 13. Also, "before May 15th after the deicing season" has been replaced with "by the 15th of the month following the WET test in Part I.A.3, Footnote 11.

Change to permit: Replace "before the 15th" with "by the 15th" in Part I.A.1 (Footnotes 2, 3, and 4), Part I.A.2 (Footnotes 7, 8, and 9), Part I.A.3 (Footnote 11), Part I.A.4 (Footnote 12), Part I.A.5 (Footnote 13), Part I.A.7 (Footnote 15), and Part I.A.8 (Footnote 17). Replace "on April 15" with "by April 15" in Part I.A.1, Footnote 4, Part I.A.2, Footnote 9, and Part I.A.5, Footnote 13 and replace "before May 15th after the deicing season" with "by the 15th of the month following the WET test" in Part I.A.3, Footnote 11.

Comment III.P from Massport: Specific Comments on the Draft Permit.

With respect to the individual sections of the Draft Permit, Massport submits the following comments and requests for modifications or clarifications. Unless stated otherwise, if the Draft Permit contains the same discharge limitation or monitoring requirement in multiple sections, Massport's comment in one section will apply to all sections.

Response to Comment III.P: Changes to the permit made in response to comments were made consistently throughout the permit.

Change to permit: none.

IV. MONITORING SPECIFICS

IV.A. COMMENTS RELATED TO MONITORING REQUIREMENTS

IV.A.1 Comment from Nick Delvento: Over the past 20 years we've – as an avid fisherman, when I was growing up we couldn't catch a striped bass; today, with the situation, we can catch two 28-inch striped bass and take them. We have – we're finally getting our water back to the condition where we can fish it, play in it, work in it, and there's a high concern from – that the effects have already started to happen as well as some minimal monitoring isn't going to see what's happening [in the waters surrounding the airport].

Response to Comment IV.A.1: The monitoring required in the permit is not "minimal," as is suggested in this comment. Many requirements in the permit are similar to those required in Sector S (Air Transportation Facilities) of the NPDES Stormwater Multi-Sector General Permit for Industrial Activities (MSGP-2000). The MSGP-2000 is a general permit applicable to many other airports around the country. Some monitoring requirements are more extensive than those required in the MSGP-2000, as well as than what has been required at other similar facilities in the past. EPA has determined that monitoring of the main outfalls and of 15% of the 44 Runway/Perimeter Outfalls, in accordance with an approved sampling plan as specified in Part I.C.2 (formerly Part I.B.13) of the permit, will provide a characterization of the storm water flow from the outfalls.

Massport has 180 days from the effective date of the permit to develop and implement the Runway/Perimeter Storm Water Outfall Sampling Plan (Refer to Response to Comment IV.D.3 – IV.D.4 for the reasoning for the change from 90 days to 180 days). According to Part I.C.2 (formerly Part I.B.13), Massport shall use the following criteria when developing the sampling locations:

a) The runway being used during wet weather or a deicing episode, the planned pattern of runway and taxiway deicing, and the amount of deicer expected to be applied during the monitored event,
b) Likelihood that a pollutant will be present where monitoring,
c) Safety for the flights and the personnel conducting the sampling, and
d) Ability to obtain a sample from the outfall pipe.

The plan should consider all of the criteria above and be flexible from one storm event to another since criteria could change such as runway use.

Furthermore, a part of the Water Quality Study required by Part I.D.2 of the permit and described in Response to Comment V.D.2 will include a requirement for real-time monitoring of the outfalls, during a deicing episode, with expected contamination of deicers (Outfall 001, 002, 003, and 006) for parameters including temperature, DO, and conductivity, to be representative of a storm event discharge from each outfall. (Refer to Response to Comment IV.A.2 – IV.A.3).

The requirement for real time monitoring of a storm event will help to characterize the waste stream and help supplement the other monitoring required by the permit in order to develop a complete characterization of the discharges from the airport. Although monthly sampling provides important information on annual patterns of water quality variation, it can sometimes miss events occurring on small time scales which can be measured by continuous sampling. The requirement for real time monitoring will address this concern.

Change to permit: See RTC IV.A.2 – IV.A.3 regarding addition to permit Part I.D.2.

IV.A.2 Comment from Robert A. DeLeo: I urge the United States Environmental Protection Agency to apply the strictest standards to this process and to give special consideration to the circumstances of the area. Specifically, due to the density and proximity of Winthrop's residential community to Logan Airport and its abutting waters, I believe the monitoring protocols called for in the draft permit are inadequate. Daily monitoring for all potential toxins and pollutants should be required as part of the permit if granted. Put simply, if the people of Winthrop will be asked to shoulder yet another burden of our air transportation system, despite the fact they already carry far more than their fair share, they at least have a right to know what is being discharged into their waters. Daily monitoring and stringent record-keeping is the only way to ensure we have valid data on the composition of the effluent.

IV.A.3 Comment from Public Meeting on 10/5/06: EPA should monitor more (daily) to protect residents.

Response to Comments IV.A.2 – IV.A.3: Monitoring frequency is determined on a case-by-case basis. According to the NPDES Permit Writers' Manual, the intent is to establish a frequency of monitoring that will detect most events of noncompliance without requiring needless or burdensome monitoring (p 119). In establishing monitoring frequency, the permit writer estimates the variability of the concentration of the parameter by reviewing effluent data for the facility, or in the absence of such data, by reviewing data from similar dischargers.

In the case of this permit, since the discharge is related to storm events, collection of data on a daily basis is not necessary, as discharge on a daily basis from storm events is highly unlikely. The monitoring frequencies required in the permit were chosen to obtain enough data to develop a characterization of each outfall, while at the same time not requiring overly burdensome monitoring requirements.

However, partly in response to this comment and other comments requesting increased monitoring, the Water Quality Study required by Part I.D of the permit and described in Response to Comment V.D.2 will include a requirement for real-time monitoring of the outfalls, during a deicing episode, with expected contamination of deicers (Outfall 001, 002, 003, and 006) for parameters including temperature, DO, and conductivity, to be

representative of a storm event discharge from each outfall. (Refer to Response to Comment IV.A.1).

Change to permit: See Response to Comment V.D.2 for addition of Part I.D.2 to the Water Quality Study, in response to the above comment.

IV.A.4 Comment from MA Riverways: It is unclear why outfall 003A is exempt from effluent limits, especially since this area includes the jet fuel storage area, simply because of the CSO issue. It seems every effort should be made to find a way to isolate the runoff from Logan entering this discharge point prior to commingling with the CSO inputs in order to obtain wet weather samples of the pollutants generated by the airport and discharged through this outfall. With an isolation of the Logan derived flows, this outfall can have meaningful limitations, as do the other Logan drainage outfalls, and contribute to managers and regulators understanding of the total pollutant loadings in the receiving waters from Logan Airport and any issues related to this sub drainage.

Response to Comment IV.A.4: The drainage to Outfall 003A does not contain the jet fuel storage area; a typographical error exists on page 5 of the Fact Sheet. The jet fuel storage area actually drains to Outfall 001.

Massport is required to average the results of three sampling points at Outfall 003A in an attempt to characterize storm water quality related to airport activities in the Porter Street drainage area. As stated in the permit, "Sampling locations will be chosen to obtain samples that are representative of airport activities within the Porter Street drainage area and minimize contributions from the adjacent storm water system operated by Boston Water and Sewer Commission." EPA believes that this monitoring plan together with the monitoring requirements established in the permit for Outfall 003A will help Massport and EPA to better understand the discharge and the possible effect of the discharge from the airport on the receiving water.

As further explained in Response to Comment IV.E.1 – IV.E.3, EPA has added a pH effluent limit for Outfall 003A, based on the State's certification and anti-backsliding requirements. EPA does not see a sufficient basis for establishing other effluent limits at Outfall 003A at this time. However, this permit may be modified if EPA and MassDEP determine the need to develop effluent limitations based on the monitoring results.

This comment led EPA to reword the draft permit for clarification of the reporting requirements for the representative sampling locations at Outfall 003A. Footnote 5 in Part I.A.2 of the draft permit stated, "Massport shall monitor the storm water at Outfall 003A for the listed pollutants and report the average of the sampling location results on Discharge Monitoring Reports (DMRs)." To avoid confusion regarding the requirement to report the average of the sampling locations at Outfall 003A, Footnote 5 in Part I.A.2 of the permit has been changed to state that "Massport shall monitor the storm water for Outfall 003A for the listed pollutants at representative sampling locations and report the average of all representative sampling location results on the Discharge Monitoring Reports (DMRs)."

Change to permit: Footnote 5 in Part I.A.2 now reads, "Massport shall monitor the storm water for Outfall 003A for the listed pollutants at representative sampling locations and report the average of all representative sampling location results on the Discharge Monitoring Reports (DMRs)."
Renumber Part I.B.12 in the draft permit to Part I.C.1 in the final permit.

IV.A.5 Comment from MA Riverways: The effluent limits on page 12 of the draft permit again do not apply to outfall 003C but there is no explanation provided for this exemption. This is a dry weather sampling – there should be no CSO inputs into the system in dry weather.

Response to Comment IV.A.5: Dry weather discharges include the discharges defined in the Fact Sheet as well as the storm water discharge of snow melt runoff. Non-Storm Water Discharges, Fact Sheet Part III.V.B, p. 10, "include dry weather discharges from airport deicing/anti-icing operations, storm water that accumulates at the above-ground storage tank bunkers, storm water that accumulates at the fuel loading rack, and dry weather discharges resulting from runway maintenance."

Therefore, during dry weather discharges, input of water from snow melt runoff from East Boston could mix with the dry weather discharges from the Porter Street drainage area before entering the Boston Water and Sewer Commission (BWSC) system at multiple locations. Therefore, the CSO inputs could still occur, even during dry weather discharges. This possibility for CSO inputs into the Porter Street drainage area is the reasoning for requiring monitoring in place of effluent limitations at Outfall 003C.

However, in an attempt to isolate the airport discharge from the CSO inputs, Massport shall develop a sampling plan as specified in Part I.C.1 (formerly Part I.B.12) of the Permit. This plan attempts to isolate the discharge from the airport from the CSO inputs by requiring sampling of at least three (3) sampling locations, representative of the discharge from the airport through Outfall 003, to be averaged on DMRs.

Change to permit: none.

IV.A.6 Comment from MA Riverways: Most of the Wet Weather sampling required by the draft permit requires a grab sample for testing. Given the unevenness in wet weather discharges and the growing understanding of the variability of pollutant concentrations over the duration of a storm, we would like to advocate for more guidance in the permit on when during the storm event an outfall should be sampled. Ideally every effort should be made to capture the peak concentration, usually the first flush, of pollutants.

Response to Comment IV.A.6: A requirement to sample during the first flush of pollutants, if practicable, has been added to the permit. The permittee is required to sample within 30 minutes of the beginning of a storm event to encompass the first flush of pollutants.

The following language, from Part 5.2.2 of the MSGP-2000, has been added to the permit at Footnotes 3, 4, 8, 9, 10, 11, and 13:

> The grab sample shall be taken during the first 30 minutes of the discharge. If it is not practicable to take the sample during the first 30 minutes, sample as soon as practicable and describe why a grab sample during the first 30 minutes was impracticable. Submit this information on or with the DMR.

Change to the permit: Footnotes 3, 4, 8, 9, 10, 11, and 13.

IV.A.7 Comment from MA Riverways: While not explicitly stated, it appears each outfall will continue to be monitored separately and not batched. For most pollutant parameters this is a sound approach though advantages to batching samples may be realized when testing for pollutants where the minimal detection limit may be higher than acceptable aquatic or public health criteria.

Response to Comment IV.A.7: The monitoring results, with the exception of the three sample locations from Outfall 003 and the Runway/Perimeter Outfalls from Outfall 006, will not be batched but will be monitored separately. The monitoring results from the three sampling locations at Outfall 003, as described in Part I.C.1 of the permit, to be established by Massport in order to be representative of airport activities within the Porter Street drainage area, will be averaged and reported as Outfall 003. Likewise, the monitoring results from the seven (15% of 44) runway/perimeter outfalls, to be established by Massport as described in Part I.C.2 of the permit, will be averaged and reported as Outfall 006. Additional batching is not appropriate since the current monitoring requirements are all designed to obtain representative samples of what is actually being discharged.

Change to permit: none.

IV.A.8 Comment from AirTran Airways: Page 3 item 1, states "during the period beginning on the effective date and lasting through the expiration date, the permittee and co-permittee's are authorized to discharge storm water associated with industrial activity from vehicle maintenance areas, equipment cleaning areas, and de-icing activities from outfalls 001A (North Outfall) 002A (West Outfall), and 004A (Maverick Street Outfall)." It is presumed, the definition of vehicle, as used in this context, includes both aircraft and GSE equipment.

Response to Comment IV.A.8: In the case of Table I.A.1, and in the other permit tables which list vehicle maintenance as an industrial activity (Table I.A.2, Table I.A.7, and I.A.8) the word vehicle refers to both aircraft and GSE equipment.

Change to permit: none.

IV.A.9 Comment from MA Riverways: From the information contained in the Fact Sheet, it seems dry weather discharges may be possible or currently occurring. Are there any dry weather discharges from any of the outfalls? If there are dry weather flows, why

are they being allowed? Footnote #15 on page 16 of the draft permit, provides guidance on sampling dry weather from storm water outfalls requiring sampling 'taken at least 72 hours after the previously measurable storm event'. This footnote refers to the permit subsection, (on page 15) for dry weather activity though the limitations relate to "discharge(s of) storm water associated with industrial activity from vehicle maintenance areas, equipment cleaning areas, and deicing activities from outfalls 001C, 002C, and Outfall 004C. (emphasis added) This referenced and monitored dry weather stormwater flow appears to be a contradiction in terms. If there is runoff from deicing, maintenance and equipment cleaning 72 hours after the end of a storm event than [*sic*] this runoff would be unrelated to a storm event, (Logan is a very small 'watershed' which would not take several days to drain away storm-related runoff) but associated with the industrial activity which should not fall under a stormwater permit.

Response to Comment IV.A.9: According to Part III.V.B. of the Fact Sheet, p. 10, dry weather discharges "include dry weather discharges from airport deicing/anti-icing operations, storm water that accumulates at the above-ground storage tank bunkers, storm water that accumulates at the fuel loading rack, and dry weather discharges resulting from runway maintenance." Additionally, dry weather discharges include storm water discharges of snow melt runoff.

It is possible for discharges from airport deicing/anti-icing operations and from runway maintenance to occur during dry weather conditions either due to snow melt runoff or due to freezing conditions (without precipitation). Although these discharges are described as "non-storm water discharges" in the Fact Sheet, since they do not occur during a storm event, the discharges are still related to storm events. In any event, the EPA believes it is reasonable to authorize these discharges in this individual permit, with appropriate controls. An individual NPDES permit may appropriately regulate discharges, whether or not they would be considered storm water discharge under a general permit.

No changes have been made to the permit tables for dry weather discharge, Table I.A.7 and Table I.A.8, which state that "the Permittee and Co-Permittees are authorized to discharge storm water associated with industrial activity from vehicle maintenance areas, equipment cleaning areas, and deicing activities." Table I.A.4, which, under the draft permit, authorized discharge of accumulated storm water after sampling for compliance with permit effluent limits at the fuel loading rack, now authorizes discharge of this water after treatment with the oil/water separator, and with sampling, while the water is being discharged.

Change to permit: None, but see Response to Comment XI.J.5 – XI.J.23 concerning changes to monitoring requirements at Part I.A.4 of the permit.

IV.A.10 Comment from Massport on § I.A.5. Wet Weather (Pgs.11-12): The requirements on page 11, as currently written, appear to limit discharges to only 15 percent of the runway outfalls. Massport requests that EPA clarify the first sentence by adding a period after "Northwest Outfall and from pavement and runway activities" and making the following revision:

"...Northwest Outfall and from pavement and runway activities. Representative samples shall be collected from 15 percent…"

IV.A.11 Comment from Delta on § I.A.5: Delta respectfully requests that EPA clarify, and possibly rewrite the first sentence of this section because it appears, as it is currently written, to address both authorized discharges and sampling requirements in the same sentence.

Response to Comment IV.A.10 – IV.A.11: The draft permit has been changed for clarification purposes to reflect the requested wording change in the final permit at Part I.A.5.

*Change to permit: Part I.A.5 has been changed to "During the period beginning on the effective date and lasting through the expiration date, the Permittee and Co-Permittees are authorized to discharge storm water associated with industrial activity and from pavement and runway activities to outfall **005A** (Northwest Outfall) and the 44 runway/perimeter outfalls. Representative samples shall be collected from outfall 005A and from15 percent of outfalls A-1 to A-44. The results of the sampling of 15 percent of outfalls A-1 to A-44 are to be reported as outfall **006A**. Such discharges shall be monitored by Massport as specified below."*

IV.A.12 Comment from Massport on § I.A.5. Wet Weather (Pgs.11-12): Massport requests that EPA clarify the requirement of the last sentence in footnote 13 where it states to provide the "average monthly and maximum value reported as maximum daily for each quarter."

IV.A.13 Comment from Delta: Delta also requests that EPA explain or clarify the last sentence in footnote 13 because it is currently unclear as written. This sentence currently requires reporting of the monitoring at Outfall 005A and the average value of the minimum of seven outfalls sampled as "average monthly and maximum value reported as maximum daily for each quarter."

Response to Comments IV.A.12 – IV.A.13: The last sentence in Footnote 13, Part I.A.5 of the draft permit stated, "Massport shall report the results of the monitoring at Outfall 005A, and the average value of the minimum of seven outfalls sampled as average monthly and maximum value reported as maximum daily for each quarter on DMRs from the monitoring results at the locations developed in the Perimeter Sampling Plan as Outfall 006A."

To clarify the reporting requirements, the flow shall be estimated quarterly with the average flow from all seven outfalls reported as average monthly and the maximum flow value from all seven outfalls reported as maximum daily. Due to Response to Comments IV.D.1-IV.D.2, the requirement for flow monitoring in the draft permit has been replaced with a requirement for flow modeling in the final permit. Despite this change, an

estimate of both the average monthly and maximum daily flow values, as defined above, must be made monthly by using the flow model, with the results reported on DMRs.

A clarification for flow estimate has been added to Footnote 13, Part I.A.5 of the permit, as follows: "Massport shall report the results of the monitoring at Outfall 005 on one DMR, and on a separate DMR for Outfall 006A, the average value of the minimum of seven outfalls sampled as average monthly and the highest value reported as maximum daily for each quarter."

Change to permit: Addition of the above phrase to Footnote 13, Part I.A.5.

IV.A.14 Comment from Delta on § I.A.10: Delta believes that this condition in the Draft Permit is too vague and has no legal basis and, therefore, should be removed prior to the permit being finalized. This condition currently states that the "discharge shall not cause or *have the reasonable potential* to cause or contribute to a violation of a water quality standard." The provision is inappropriate and represents a derogation of the responsibility imposed by the regulations for EPA to make the determination at the time of permit issuance whether a discharge has the reasonable potential to cause or contribute to a violation of a water quality standard, as required by 40 C.F.R. §122.44(d). In addition, as a permit condition, the term "reasonable potential" which refers to EPA's discretion in fashioning WQBELs is undefined, thereby making this condition overly vague, inappropriate, and unenforceable; yet, subjects permittees to liability and enforcement by third parties. Furthermore, the condition does not provide sufficient notice of what specific discharges meet this vague condition. Therefore, Delta respectfully requests that this condition be removed from the permit. Notwithstanding this comment, if EPA decides to retain this condition, Delta requests that EPA provide a legal basis for this proposed condition as well as guidance on how to interpret this condition.

IV.A.15 Comment from Delta on § I.A.14: Delta respectfully requests that EPA remove this condition as it is not specific enough to provide notice regarding what specific discharges are prohibited. The general term included in this condition, "which are hazardous and toxic," is not defined thereby making this condition a subjective standard. Notwithstanding this comment, if EPA decides to include this condition, Delta requests that EPA provide a definition of this term or guidance/clarification of how this condition will apply and provide a source for the requirement in its response to comments.

Response to Comments IV.A.14 – IV.A.15: These two permit conditions set general requirements that the discharges meet water quality standards. The two conditions have been retained but have been relocated, and modified so as to apply only as standards applicable to the BMPs to be developed pursuant to the SWPPP, for the reasons explained below.

First, we do not believe that EPA's authority is as narrowly constrained as the commenter states. Section 402 of the Clean Water Act (CWA), 33 U.S.C. § 1342 authorizes EPA to issue an NPDES permit with conditions that ensure that the discharge will meet, among

other things, the requirements of § 301 of the CWA, 33 U.S.C. § 1311. Section 301, in turn, includes § 301(b)(1)(c), which requires that a discharge shall achieve "...*any* more stringent limitation, including those necessary to meet water quality standards...established pursuant to any State law or regulation...." (emphasis added). Nowhere does the statute specify that EPA may only impose specific numeric effluent limitations to meet state water quality standards.

EPA's regulations at 40 C.F.R. § 122.44(d)(1) state that each permit shall include "any requirements in addition to or more stringent than promulgated effluent limitations guidelines.... necessary to achieve water quality standards...." While § 122.44(d) does require "effluent limits" to be established when EPA determines that a particular pollutant has the reasonable potential to cause or contribute to an in stream excursion above a water quality criterion, the regulations do not require that all "effluent limitations" necessary to meet water quality standards be expressed in terms of specific pollutant by pollutant numeric limitations. Rather, the regulations (40 C.F.R. § 122.44(k)) recognize that the limitations may sometimes take the form of measures implemented as Best Management Practices (BMPs), such as when this is authorized under CWA 402(p) for the control of storm water discharges, or when numeric effluent limitations are infeasible, or when the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes or intent of the CWA. These tests for utilizing BMPs in place of numeric limits are all met here. Thus the EPA may use requirements to develop BMPs to meet the water quality standards, rather than numeric effluent standards.

In establishing such requirements for BMPs, it is appropriate for the EPA to specify that the BMPs be designed and implemented to meet water quality standards - since that is one of the applicable statutory requirements. See CWA §§ 301 and 402(p). Accordingly, while the general requirement to meet water quality standards has been removed from Part I.A.10 of the permit, it instead has been incorporated into Part I.B.1 of the permit as one of the standards for the BMPs. We believe that the EPA has the statutory authority to specify that the BMPs be developed so as to meet this statutory standard rather than 'translating' this requirement by specifying in advance the exact measures that the permittees must take under its SWPPP to meet the statutory standard. See U.S.Steel v. Train, 556 F.2d 822, 840 (7th Cir. 1977) ("thermal water quality standards do not need to be 'translated' in order to become applicable to an individual discharger as effluent limitations."); Cf. Northeast Environmental Advocates v. City of Portland, 56 F.3d 979 (9th Cir. 1995) (reversing prior ruling, in light of the Supreme Court's decision in PUD No. 1 of Jefferson County v. Washington Department of Ecology, 511 U.S. 700 (1994), and now holding that citizens *do* have standing under the Clean Water Act to enforce general water quality standards requirements contained in a permit even though they have not been translated into end-of-pipe effluent limitations).

Indeed, we note that it would be against the interest of the permittees for the EPA to prejudge now exactly what measures need to be implemented pursuant to a SWPPP that has yet to be developed. The pollution prevention plan approach favored by EPA gives facilities flexibility to establish a site-specific storm water management program to meet

Clean Water Act requirements. But the BMP framework must be fully implemented to meet these statutory standards (*Storm Water Management for Industrial Activities*, EPA, September 1992, EPA 832-R-92-006).

Thus the requirement that "the discharge shall not cause or contribute to the violation of a water quality standard" is being retained, in the modified form. Similarly, the general requirement that "any effluent shall not contain materials in concentrations or in combinations which are hazardous or toxic to aquatic life or which would impair the uses designated by the classification of the receiving waters" is being retained, in modified form. This requirement tracks key provisions of the Massachusetts Water Quality Standards. See 314 CMR 4.05 generally and 4.05(e). Thus it is another provision which sets an appropriate statutory-based standard for the development and implementation of the BMPs. The requirements have been removed from Parts I.A.10 and I.A.14 of the permit but instead have been incorporated into Part I.B.1 of the permit.

The EPA also does not believe that requiring the permittees to track the statutory requirements when developing the BMPs is vague. Whether a discharge is likely to cause a violation of water quality standards can be calculated. Massport will be doing sampling and studies pursuant to the permit which will provide useful guidance. The permit prescribes conduct on the part of the permittees and standards for evaluating the successful completion of that conduct. The conditions are sufficiently clear and do not encourage arbitrary or discriminatory enforcement by the Agency, and are therefore not in the EPA's view vague.

Moreover the alternative to utilizing general standards would be to have EPA prescribe all of the specific steps that each permittee must take in developing and implementing the BMPs. This would not be a good use of EPA's limited resources. However, EPA Region I anticipates providing permit oversight as the permittees develop the SWPPP. The permittees will be free to consult with the Region if particular implementation questions arise. This should help address any concerns about the permit conditions being potentially vague.

While the two conditions are being retained in modified form, after further evaluation EPA believes that for the particular discharges covered by this permit, the BMP requirements, together with the specific numeric effluent limitations that are imposed in the permit, are sufficient to ensure that water quality standards will be met. Therefore in this permit, EPA is no longer specifying general requirements to meet water quality standards, other than as standards for the BMPs. If new information becomes available in the future which indicates that new or more stringent permit limits are needed to meet water quality standards, the permit will be modified accordingly.

Additionally, the phrase "or have the reasonable potential to cause" has been removed from the water quality requirement. EPA agrees with the commenter that it is not up to a permittee to determine reasonable potential. The requirement now states, "The discharge shall not cause or contribute to a violation of a water quality standard," and has been moved to Part I.B.1.

In summary, the modified conditions have been inserted into Part I.B.1 of the final permit, SWPPP Plan Development, directly following, "…fuel and oil sources," and read as follows:

> Pursuant to the SWPPP, BMPs shall be designed and implemented so as to meet…the following water quality based requirements, at a minimum: 1) Any effluent shall not contain materials in concentrations or in combinations which are hazardous or toxic to aquatic life or which would impair the uses designated by the classification of the receiving waters, and 2) The discharge shall not cause or contribute to a violation of a water quality standard.

Change to permit: Move Part I.A.10, as modified, and Part I.A.14, as modified, and incorporate into Part I.B.1 of the permit.

IV.A.16 Comment from Delta on § I.A.12: Delta objects to the inclusion of this condition because the condition is overly broad and vague on its face. This condition requires that "discharges shall not cause objectionable discoloration of the receiving waters." First, naturally occurring organic substances could result in a violation of this condition. The introduction of naturally occurring organic substances, such as pollen, into the receiving waters, through no fault and outside the control of the co-permittees, could cause a violation of this condition. Therefore, this condition is overinclusive and violations can occur beyond the control of the co-permittees. In addition, this condition is vague in that the term "objectionable discoloration" is not defined, nor does it provide sufficient notice as to what is prohibited by the condition. Therefore, Delta requests that this condition be removed from the Draft Permit. Notwithstanding this comment, if EPA decides to include this condition, Delta requests that EPA clarify and provide guidance concerning what is prohibited by the condition, including language clarifying that the permittee is not responsible where there is no addition of pollutants, and providing a credit for naturally occurring pollutants.

Response to Comment IV.A.16: The Massachusetts Surface Water Quality Standards 314 CMR 4.05(4)(b)(6) state that Class SB waters "shall be free from color and turbidity in concentrations or combinations that are aesthetically objectionable or would impair any use assigned to this class." The permit condition that "discharges shall not cause objectionable discoloration of the receiving waters" is based on this State Water Quality Standard for the receiving water. It is not feasible to 'translate' this particular water quality standard into numeric effluent limits. Rather, it is appropriate to prohibit in the permit exactly the kind of discharges that are prohibited by the water quality standard, i.e., those causing objectionable discoloration. Prohibiting discharges causing objectionable discoloration also is not vague, since the term has a common sense meaning capable of being understood by the average person.

In any event, in its Certification letter issued pursuant to CWA 401, the State has specified that this condition must be included in the permit. Thus the EPA is legally required to include the condition.

The Massachusetts Surface Water Quality Standards 314 CMR 4.03(5) state that "Excursions from criteria due to solely natural conditions shall not be interpreted as violations of standards." Therefore, the permittees are not responsible for the introduction of naturally occurring organic substances such as pollen into the receiving water, through no fault and outside the control of the permittees. This permit condition is not over inclusive. The permittees can prevent the objectionable discharges that are covered by the permit condition through development and implementation of sound BMPs.

Change to permit: none.

IV.A.17 Comment from Delta on § I.A.13: Delta feels that this is an unattainable and impractical requirement given that there are naturally occurring oils and organic substances, such as pollen, and that sheen may result from films that are not visible during dry weather. Therefore, compliance with this standard is beyond the reasonable control of the copermittees. Notwithstanding this comment, if EPA decides to include this condition, Delta requests that EPA clarify and provide guidance concerning what is prohibited by the condition including language clarifying that the permittee is not responsible where there is no addition of pollutants, and providing a credit for naturally occurring pollutants.

Response to Comment IV.A.17: The draft permit states, "Any effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time."

The Massachusetts Surface Water Quality Standards 314 CMR 4.05(4)(b)(5) state regarding Class SB waters:

> These waters shall be free from floating, suspended and settleable solids in concentrations or combinations that would impair any use assigned to this class, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom.

Furthermore, 314 CMR 4.05(4)(b)(7) states regarding Class SB waters:

> These waters shall be free from oil, grease and petrochemicals that produce a visible film on the surface of the water, impart an oily taste to the water or an oily or other undesirable taste to the edible portions of aquatic life, coat the banks or bottom of the water course, or are deleterious or become toxic to aquatic life.

Finally, 314 CMR 4.05(5)(a) states:

> All surface waters shall be free from pollutants in concentrations or combinations that settle to form objectionable deposits; float as debris, scum or other matter to form nuisances; produce objectionable odor, color, taste or turbidity; or produce undesirable or nuisance species of aquatic life.

The permit condition is based on these standards. It is not feasible to 'translate' these particular water quality standards into numeric effluent limits. Rather, it is appropriate to prohibit in the permit exactly the kind of discharges that are prohibited by the water quality standards, i.e., those causing floating solids, foam or a visible oil sheen.

Prohibiting such discharges also is not vague, since the terms have a common sense meaning capable of being understood by the average person.

In any event, in its Certification letter issued pursuant to CWA 401, the State has specified that this condition must be included in the permit. Thus the EPA is legally required to include the condition.

Refer to Response to Comment IV.A.16 for further explanation concerning introduction of naturally occurring substances. As explained there, the permittees are not responsible for the introduction of naturally occurring organic substances such as pollen into the receiving water, through no fault and outside the control of the permittees. Thus, this permit condition is not impracticable or unattainable. The permittees can prevent the objectionable discharges that are covered by the permit condition through development and implementation of sound BMPs.

Change to permit: none.

IV.A.18 Comment from AirTran Airways: Page 38, item 10 h, states, "minor maintenance activities are permitted at the terminals and the terminal aprons." It is further presumed, that vehicle maintenance area, as used in this context, includes terminal and terminal aprons.

Response to Comment IV.A.18: Part I.B.10.h. of the permit refers to aircraft maintenance. Part I.B.10.i. of the permit refers to automotive and GSE Maintenance and specifies that "No maintenance activities shall be performed on terminal aprons at any time, except in case of an emergency." Therefore, AirTran Airways incorrectly presumes that the vehicle maintenance area includes terminals and terminal aprons, as this is not the case in the permit. Rather, aircraft and vehicle maintenance are addressed separately, and non-emergency, vehicle maintenance is not permitted at the terminal aprons.

Change to permit: none.

IV.A.19 Comment from Sal LaMattina: We know that they test for bacteria [in the draft permit], but are they testing for other toxins that will be dangerous for us to use that beach [Constitution Beach]?...I hope that in your decision that you will add some protections for us that they do test for not only bacteria but for toxins, especially during the summer months when we use the beach.

Response to Comment IV.A.19: The permit requires sampling for other parameters, not only bacteria, as listed in Parts I.A.1 through I.A.8 of the permit. Sampling (with effluent limits) is required at some outfalls during specific conditions for pH, oil and grease, and TSS. Sampling (without effluent limitations) is required at some outfalls during specific conditions for flow rate, pH, oil and grease, TSS, benzene, surfactant, fecal coliform, enterococcus, ethylene glycol, propylene glycol, BOD5, COD, total ammonia nitrogen, nonylphenol, tolyltriazole, WET testing, total Polynuclear Aromatic Hydrocarbons (PAHs) and specific PAHs of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene,

benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and naphthalene.

Change to permit: none.

IV.A.20 Comment from Public Meeting on 10/5/06: Are there any possible sources of PCBs?

Response to Comment IV.A.20: No known sources of PCBs exist at the airport.

Polychlorinated biphenyls (PCBs) are a mixture of individual chemicals which are no longer produced in the United States, but are still found in the environment. PCBs do not readily break down in the environment and thus may remain there for very long periods of time. PCBs can travel long distances in the air and be deposited in areas far away from where they were released. In water, a small amount of PCBs may remain dissolved, but most stick to organic particles and bottom sediments. PCBs also bind strongly to soil.[10]

Change to permit: none.

IV.B. COMMENTS RELATED TO MONITORING FREQUENCY

IV.B.1 Comment from Massport on § I.A.1 Effluent Limitations and Monitoring Requirements (Pgs. 3-4): Massport requests that EPA clarify the condition that triggers the need for additional sampling. Massport is concerned that there will be times when sampling occurs, based on an anticipated storm event, but the storm ultimately does not meet the magnitude requirements (or occur at all). Given the time lag from mobilization to actual sampling, Massport anticipates this issue occurring. In these situations, Massport requests the flexibility to collect the samples during the following month.

IV.B.2 Comment from Delta: It is unclear from the Draft Permit how EPA will handle sampling that is scheduled based on an anticipated storm event that either does not ultimately meet the magnitude requirements or even occur at all. It is also unclear how EPA will handle sampling that occurs after the storm ends. Therefore, Delta requests that EPA provide guidance on the following questions: (1) Under these circumstances, will EPA accept the data or require re-sampling? (2) If sampling occurs during the next storm event, will that count for both periods?

Response to Comments IV.B.1-IV.B.2: A provision has been added to the permit to allow Massport to report any sampling results collected either during a storm event that does not reach the expected magnitude of >0.1 inches or that does not occur, in the event that no other storm event occurs during the monitoring period that reaches the required magnitude. The change to the permit is the addition of the phrase, "if practicable." However, the permittee is still required to meet the requirement to sample during a storm event of > 0.1 inches in magnitude if such a storm event occurs during the specified

10 ATSDR – ToxFAQs for Polychlorinated Biphenyls (PCBs) (February 2001)

monitoring period. In this case, the test results collected during the >0.1 inch storm event shall be reported instead of the results of the storm event that did not reach the when a storm did not occur. Additionally, sampling of one storm event in the case that the permit requires sampling of two events does not count for both sampling periods.

This changes the permit at Part I.A.1, Footnote 3, to now read as follows:

> "A monthly grab sample shall be taken during wet weather conditions, if practicable, at each outfall at representative locations of the points of discharge. Wet weather conditions mean during a storm event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rain fall) storm event."

This changes the permit at Part I.A.1, Footnote 4, to now read as follows:

> "A quarterly grab sample shall be taken during wet weather conditions, if practicable, at each outfall at representative locations of the points of discharge. Wet weather conditions mean during a storm event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rain fall) storm event."

This changes the permit at Part I.A.2, Footnote 8, to now read as follows:

> "A monthly grab sample shall be taken during wet weather conditions, if practicable, at the representative locations established pursuant to the Porter Street Monitoring Plan. Wet weather conditions mean during a storm event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rain fall) storm event."

This changes the permit at Part I.A.2, Footnote 9, to now read as follows:

> "A quarterly grab sample shall be taken during wet weather conditions, if practicable, at monitoring locations developed in the Porter Street Monitoring Plan. Wet weather conditions mean during a storm event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rain fall) storm event."

This changes the permit at Part I.A.3, Footnote 10, to now read as follows:

> "Samples shall be taken during a wet weather deicing episode, if practicable."

This changes the permit at Part I.A.3, Footnote 11, to now read as follows:

> "The grab samples shall be gathered during a wet weather deicing episode, if practicable."

This changes the permit at Part I.A.5, Footnote 13, to now read as follows:

> "On a quarterly basis Massport shall sample the Northwest Outfall 005A and at least 15 percent (a minimum of seven) of the 44 runway/perimeter storm water outfalls (A-1 through A-44) during wet weather conditions, if practicable. Wet weather conditions mean that the samples must be taken during a storm event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rain fall) storm event."

This changes the permit at Part I.A.6, Footnote 14, to now read as follows:

> "Samples shall be taken during a wet weather deicing episode, if practicable, as previously defined in Footnote 10, above."

Additionally, for clarification purposes, EPA has removed the phrase "during a deicing episode" from Footnote 13, since these permit conditions are applicable during wet weather conditions, not necessarily during a deicing episode.

Change to the permit: Footnotes 3 and 4 in Part I.A.1, Footnote 8 and 9 in Part I.A.2, Footnotes 10 and 11 in Part I.A.3, Footnote 13 in Part I.A.5, and Footnote 14 in Part I.A.5 (see above). Also, remove the phrase "during a deicing episode" from Footnote 13, Part I.A.5.

IV.B.3 Comment from MA Riverways: All of the major outfalls have had exceedances of the oil and grease limit. If the elevated concentrations occurred during wet weather than [sic] the monitoring requirements in the draft permit may be inadequate. With sampling required only once per month, regardless of the frequency and intensity of storms in the month, this infrequent sampling may not provide sufficient information to characterize the quantity of oil and grease being released into the harbor and bay from this site. This concern is an extrapolation of the exceedence history. If several of the major outfalls have had violations of the 15 mg/L oil and grease limit during the once per month wet weather sampling, one can infer there are additional problems not captured by the infrequent monitoring during other rain events. More insight into the loadings of this pollutant would be gained with more frequent monitoring of oil and grease. Monitoring of more storm events, such as those greater than 2 cm, would provide additional information about the extent of the combined oil and grease releases from the airport.

IV.B.4 Comment from Anjie Preston: Oil, gas and grease discharges need to be monitored and averaged on a monthly basis in both wet and dry weather conditions.

Response to Comments IV.B.3-IV.B.4: The permit requires sampling for oil and grease during wet weather from Outfalls 001, 002, 003, 004, 005, and 006, as well as 001D and 001E, and during dry weather from Outfalls 001, 002, 003, and 004. Additionally, the permit imposes numeric effluent limits during wet weather at Outfalls 001, 002, 004, and during dry weather at 001, 002, and 004. The oil and grease results from the sampling for the runway/perimeter outfalls are averaged and reported as Outfall 006A, and the results at Outfall 003 are averaged and reported as well. EPA expects that these effluent limitations and monitoring requirements will effectively control the amount of oil and grease in the discharges from the airport. EPA expects that the wet weather samples, taken during a storm event greater than 0.1 inches in magnitude will be a representative sample of the amount of oil and grease released during storm event discharges at the airport. EPA also expects that the dry weather samples, taken at least 72 hours from the previously measurable storm event (greater than 0.1 inches in magnitude), will be a representative sample of the amount of oil and grease released during dry weather discharges from the airport.

Along with the effluent limitations and monitoring requirements, Part I.B.10 of the permit also requires development of a SWPPP for Identifying and Minimizing Discharges from Fuel and Oil Sources. (The phrase "discharges from" has been added to this title of this part of the permit for clarification purposes.) This SWPPP will contain

requirements for above ground storage tanks (ASTs), underground storage tanks (USTs), spills, fueling aircraft, BMPs for fueling practices, aircraft maintenance activities at hangars, and automotive and GSE maintenance activities. EPA expects that this SWPPP for identifying and minimizing discharges from fuel and oil sources, along with the effluent limitations and monitoring requirements found in the permit, will protect the water quality of the receiving water.

Taking account of the many monitoring requirements and other controls already required by the permit, EPA believes that requiring additional, more frequent monitoring is not necessary and would not be appropriate at this time in this permit. Analysis of the data required to be collected over the term of the permit should be sufficient in order to determine if more frequent monitoring will be necessary in the future.

Change to permit: None, but note that EPA changed the title of Part I.B.10 to "SWPPP for Identifying and Reducing Discharges from Fuel and Oil Sources."

IV.B.5 Comment from Massport on § I.A.1 Effluent Limitations and Monitoring Requirements (Pgs. 3-4): Massport requests that EPA clarify the sampling requirements. Sample collection during the storm events, particularly winter storm events, raises several concerns, including: during months with frequent precipitation, Massport may not have the required 72 hours of dry weather prior to sampling; the start of precipitation and the required low tide conditions for sampling do not always coincide, which makes it infeasible to get a representative sample of storm water; and during some months, 23 sites will need to be monitored/sampled and some of these sites require monitoring for parameters that expire within 24-48 hours of collection.

IV.B.6 Comment from Delta: Sample collection during the deicing season, as set forth in the Draft Permit, is infeasible because of the location and number of samples specified. During some months, 23 sites will need to be monitored and sampled. Holding times for some analytes will likely be exceeded due to the volume of samples currently required in the Draft Permit. Delta recommends that EPA select representative outfall locations and limit the number of samples needed to a reasonable amount necessary to characterize stormwater discharges.

Response to Comments IV.B.5-IV.B.6: EPA would like to first clarify the number of sampling sites during storm events. During wet weather, the total number of required sampling sites is 14: Outfalls 001, 002, 004, 005, three at the Porter Street Outfall (Outfall 003), and seven of the Outfall/Perimeter Outfalls. During deicing, the total number of required sampling sites is 12: Outfalls 001, 002, three at the Porter Street Outfall (Outfall 003), and seven of the Outfall/Perimeter Outfalls.

During wet weather events, 14 sampling sites are required to be monitored, as described above. Sampling 14 outfall locations at a maximum sampling frequency of monthly is not infeasible. The largest number of sampling outfall locations that will need to be sampled during both wet weather and deicing episodes is 26 (14 during wet weather and 12 during deicing). It is only possible that sampling of all 26 of these outfall locations

during the same event would occur twice per year. Sampling 26 outfall locations twice a year should be possible.

The permit requires that 15% of the 44 runway/perimeter outfalls shall be selected by Massport as representative outfall locations of the discharges influenced by deicer. This amounts to a requirement to sample 7 outfall locations, as opposed to the total of 44 outfalls along the runway/perimeter. This 15% requirement was selected based on the reasonable amount of sampling locations thought necessary to characterize storm water discharges.

Regarding the sampling of parameters that expire within 24-48 hours, the permittee is required to collect the samples using NPDES approved EPA analytical methods in accordance with C.F.R. §136. If these methods specify holding times of no more than 24-48 hours, the permittee must ensure these times are met. Other permittees meet such requirements and doing so is not infeasible.

Regarding the 72 hour time interval prior to sampling, language consistent with that of Part 5.2.2 from the MSGP-2000 has been added to the permit which states "The 72-hour interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 72-hour interval is representative for local storm events during the sampling period." This language has been added to all parts of the permit requiring a 72-hour interval prior to sampling (Footnotes 3, 4, 8, 9, 10, 11, and 13). Additionally, the phrase "if practicable" has been added throughout the permit to clarify that the samples shall be taken during wet weather conditions, if practicable. The phrase has also been added to Footnotes 15 and 17 to clarify that the samples shall be taken during dry weather conditions, if practicable (see Response to Comment IV.B.1 – IV.B.2). This should alleviate any concerns the permittees have of violating the requirement 72-hour requirement due to tidal influences.

While the start of precipitation and low tide conditions do not always coincide, it is the responsibility of Massport to sample in order to collect a representative sample of the discharge. Therefore, if high tide is influencing the discharge at the beginning of a storm event, Massport may wait until the high tide influence recedes in order to collect a representative sample of the discharge. Refer to Response to Comment IV.A.6 concerning the language that has been added to the permit due to the requirement to sample within the first 30 minutes of discharge. This language states, "If it is not practicable to take the sampling during the first 30 minutes, sample as soon as practicable and describe why a grab sample during the first 30 minutes was impracticable. Submit this information on or with the DMR." Therefore, the permit requires the permittee to decide if sampling during the first 30 minutes is practicable in order to collect a representative sample and to provide documentation of the reason for sampling which does not occur within this timeframe. In the event of high tide during the first flush of pollutants, Massport must determine if waiting for the tide to recede would provide a representative sample. If so, Massport shall wait for the tide to recede before sampling and document the reason for delayed sampling, as described above.

Change to permit: Addition of language to Footnotes 3, 4, 8, 9, 10, 11, and13, "The 72-hour interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 72-hour interval is representative for local storm events during the sampling period."

Addition of language to Footnotes 15 and 17, "if practicable," for dry weather conditions.

See Response to Comment IV.A.6 concerning addition to permit of requirement to sample within the first 30 minutes of discharge.

See Response to Comment IV.B.1 – IV.B.2 for addition of the phrase "if practicable" For wet weather conditions and deicing episodes.

IV.C. COMMENTS RELATED TO MONITORING EFFECTIVENESS TIMEFRAME

IV.C.1 Comment from Massport on § I.A.1 Effluent Limitations and Monitoring Requirements (Pgs. 3-4): The set-up of monitoring equipment at the outfalls will require an extended period of evaluation/selection, requisition, installation, and testing. Given public purchasing and contracting requirements in Massachusetts, Massport requests 180 days.

IV.C.2 Comment from Delta: The Draft Permit allows 90 days from the time of permit issuance before the monitoring and reporting requirements become effective to allow for purchasing and installing of continuous monitoring equipment. However, this timeframe is an insufficient amount of time to accomplish both purchasing and installation of equipment. We note that in issuance of Multi-Sector General Permits, EPA has in the past provided up to 270 days for development of stormwater plans and associated monitoring and reporting provisions to become effective. In order for EPA's implementation of the permit for Logan to be successful, EPA must provide adequate time to consider and adequately address the numerous new requirements. Delta requests at least 180 days for implementation of new stormwater controls, monitoring, and reporting requirements.

Response to Comments IV.C.1-IV.C.2: The permit has been changed to allow 180 days from the effective date of the permit before the monitoring and reporting requirements for Outfall 003 and 006 take effect, to allow for development and implementation of the Porter Street Monitoring Plan and the Runway/Perimeter Sampling Plan.

The draft permit allowed the monitoring and reporting requirements at Outfalls 001, 002, and 004 to become effective 90 days from the effective date to allow for purchasing and installing continuous monitoring equipment. Since the requirement for continuous monitoring has been removed from the permit, as discussed in Response to Comment IV.D.1 – IV.D.2, the monitoring and reporting requirements at Outfalls 001, 002, and 004 shall become effective upon the effective date of the permit. This allows the permittee a minimum of 60 days following signature of the permit until the monitoring

and reporting requirements become effective, since this permit will not become effective for 60 days. EPA believes this amount of time is sufficient to begin non-continuous monitoring and reporting at Outfalls 001, 002, and 004, since the previous permit already required monitoring at these outfalls.

The following additions/changes have been made to the permit to clarify this permit requirement

In Part I.A.1, Footnote 2, addition of "The monitoring and reporting requirements for the outfalls shall become effective upon the effective date of the permit."

In Part I.A.2, Footnote 5, addition of "The monitoring and reporting requirements shall become effective in 180 days from the effective date of the permit to allow for development and implementation of the Porter Street Monitoring Plan." Also, replace "…in accordance with the Porter Street Monitoring Plan that will be developed according to Section B.12, below, of the Best Management Practices Plan within 90 days…" with "…in accordance with the Porter Street Monitoring Plan that will be developed according to Section C.1, below, within 180 days…"

In Part I.A.3, Footnote 10, replace "The monitoring and reporting requirements for the Outfall 003B shall become effective in 90 days from the effective date of this permit to allow for the development and implementation of the Porter Street Monitoring Plan" with "The monitoring and reporting requirements for Outfall 003B shall become effective in 180 days from the effective date of this permit to allow for the development and implementation of the Porter Street Monitoring Plan. The monitoring and reporting requirements for Outfalls 001B and 002B shall become effective upon the effective date of this permit."

In Part I.A.4, Footnote 12, addition of "The monitoring and reporting requirements shall become effective upon the effective date of the permit."

In Part I.A.5, Footnote 13, replace "The Perimeter Sampling Plan shall be completed within 90 days of the effective date of this Permit. These monitoring and reporting requirements shall become effective in 90 days after the effective date of this Permit to allow for the development and implementation of the Perimeter Sampling Plan" with "The Perimeter Sampling Plan shall be completed within 180 days of the effective date of this Permit. The monitoring and reporting requirements for Outfall 006A shall become effective in 180 days after the effective date of this Permit to allow for the development and implementation of the Perimeter Sampling Plan. The monitoring and reporting requirements for Outfall 005A shall become effective upon the effective date of the permit."

In Part I.A.6, Footnote 14, replace "These monitoring and reporting requirements shall become effective in 90 days after the effective date of this Permit to allow for the development and implementation of the Perimeter Sampling Plan" with "These monitoring and reporting requirements shall become effective in 180 days after the

effective date of this Permit to allow for the development and implementation of the Perimeter Sampling Plan."

In Part I.A.7, Footnote 15, addition of "The monitoring and reporting requirements shall become effective upon the effective date of the permit."

In Part I.A.8, Footnote 16, replace "Massport shall develop the Porter Street Monitoring Plan within 90 days of the effective date of this permit in accordance with Section B.12, below." with "Massport shall develop the Porter Street Monitoring Plan within 180 days of the effective date of this Permit in accordance with Section C.1, below. The monitoring and reporting requirements shall become effective in 180 days after the effective date of this Permit to allow for the development and implementation of the Porter Street Monitoring Plan."

In Part I.C.1 (formerly Part I.B.12), replace "Massport has 90 days from the effective date of this permit to develop and implement the Porter Street Monitoring Plan" with "Massport has 180 days from the effective date of this permit to develop and implement the Porter Street Monitoring Plan."

In Part I.C.2 (formerly Part I.B.13), replace "Massport has 90 days from the effective date of this Permit to develop and implement the Runway/Perimeter Storm Water Outfall Sampling Plan" with "Massport has 180 days from the effective date of this Permit to develop and implement the Runway/Perimeter Storm Water Outfall Sampling Plan."

Change to the permit: Part I.A.1, Footnote 2, Part I.A.2, Footnote 5, Part I.A.3, Footnote 10, Part I.A.4, Footnote 12, Part I.A.5, Footnote 13, Part I.A.6, Footnote 14, Part I.A.7, Footnote 15, Part I.A.8, Footnote 16, Part I.C.1 (formerly Part I.B.12), and Part I.C.2 (formerly Part I.B.13) (see above).

IV.D. COMMENTS RELATED TO FLOW

IV.D.1 Comment from Massport on § I.A.1 Effluent Limitations and Monitoring Requirements (Pgs. 3-4): Massport requests that EPA replace the continuous flow monitoring requirement with flow modeling. All outfalls at Logan are subject to tidal influences. During high tide, flow out of the outfalls is normally stopped unless the hydraulic grade due to precipitation is greater than the height of the tide. There is also infiltration of seawater through the tide gates into the storm drain system. Infiltration is most pronounced at the West and Porter outfalls which are often subject to significant wave action due to winds and currents. Given these tidal influences, continuous flow monitoring will not yield accurate results. Massport proposes to substitute flow modeling for flow monitoring. Massport will develop and calibrate a hydraulic model of the Logan Airport drainage system. The hydraulic model will be calibrated to three months of measured depths and velocities, allowing accurate representation of system flows. The model will subsequently be used to calculate discharge statistics for each storm throughout the year. Precipitation data will be obtained from the airport's on-site weather station operated by the National Weather Service which monitors precipitation

continuously to 0.01" resolution. Studies have shown that computer modeling can reliably represent actual urban runoff *(see e.g.* Trommer, J.T., Loper, J.E., and Hammett, K.M., 1996, *Evaluation and Modification of Five Techniques for Estimating Storm water Runoff for Watersheds in West-Central Florida,* U.S. Geological Survey Water-Resources Investigations Report 96-4158).

IV.D.2 Comment from Delta: The requirement in the Draft Permit to measure flow rate on a continuous basis will not provide accurate measurements because this measurement will be affected by tidal influences. EPA's Fact Sheet indicates that EPA plans to use the estimated Flow Rates to "determine the rate of loading or how the flow rate might otherwise affect the water quality of the receiving waters." However, reliance on estimated Flow Rates is not likely to result in a representative assessment of the discharge loadings or their affect on water quality because of the tidal influences. This concern is magnified at the perimeter outfalls, Outfalls 001, 002, and 004. If EPA seeks to impose an outfall consolidation and/or stormwater collection, the Flow Rates from the perimeter outfalls that are affected by tidal influences will skew the results. Therefore, this parameter should not be included; or, if EPA insists on including Flow Rate, EPA should allow an alternative means of documenting flow rates at Outfalls 001, 002, and 004 to account for tidal influences. Flow modeling as opposed to flow monitoring may be used for these outfalls to more accurately determine flow.

Response to Comments IV.D.1-IV.D.2: Continuous flow monitoring shall be replaced by flow modeling in the final permit. Massport shall report on DMRs an estimate of the flow rate, both average monthly and maximum daily values, by using the results from the required flow model. The flow model shall be confirmed by periodic monitoring of the actual flow from the outfalls. At this facility, flow modeling, in place of flow monitoring, will help create a better overall understanding of storm water flow. This change is reflected in Part I.A.1 of the permit, on the table for the measurement frequency and sample type for flow rate, and at Footnote 2, as well as at Part I.A.2 of the permit, on the table for sample type and at Footnote 7. Additionally, Part I.A.5 of the permit, Footnote 13, has been clarified.

The "continuously" measurement frequency has been replaced with "1/Month" and the "recorder" sample type has been replaced with "Estimate" in the final permit. Additionally, for clarification purposes, the phrase, "the three of the four major" has been removed from the first sentence of Footnote 2. Footnote 2, Part I.A.1 of the draft permit has been replaced with the following in the final permit (The changes to the pH requirements are a result of Response to Comment IV.E.1 – IV.E.3):

> Flow rate shall be recorded monthly by using the flow model to estimate the flow from outfalls 001, 002, and 004. The flow model shall consist of a hydraulic model of the Logan Airport drainage system, developed by Massport within 180 days from the effective date of the permit. The flow model shall be calibrated based on three months of measured rainfall depths and discharge velocities, including calibration of two storm events (greater than 0.5 inches in 24 hours) where flows at each major outfall and representative perimeter outfalls are measured and where the effects of high tides and sea water infiltration are at a

minimum, to the extent practicable. In addition, the calibrated model shall be verified based on a storm event where predicted and measured flows from the outfalls shall be compared. The results of this calibration and verification of the flow model shall be reported to EPA within 180 days from the effective date of the permit. If three storm events do not occur in the necessary timeframe, the permittee may, within 180 days of the effective date of the permit, request additional time to develop the flow model. The flow model shall also be confirmed by periodic monitoring of the actual flow from the outfalls. Prior to completion of the flow model, flow shall be estimated based on the Best Professional Judgment (BPJ) of the permittee. The pH shall be monitored monthly by grab samples taken at representative locations. On a monthly basis, Massport shall report the average monthly flow value and maximum daily flow value for each of the three outfalls, in gallons per day (gpd), and the value of the pH reported as Standard Units (SU) on Discharge Monitoring Report Forms (DMRs) by the 15th of the following month. The monitoring and reporting…

Footnote 7, Part I.A.2 of the permit, has been changed to the following (There also are changes to the language as a result of Response to Comment IV.A.6.):

> Flow rate shall be recorded monthly by using the flow model to estimate the flow from the outfall. The flow model shall consist of a hydraulic model of the Logan Airport drainage system, developed by Massport within 180 days from the effective date of the permit. The flow model shall be confirmed by periodic monitoring of the actual flow from the outfalls. Refer to Part I.A.1 of the permit, Footnote 2, for a complete discussion of the flow model. Prior to completion of the flow model, flow shall be estimated based on the BPJ of the permittee. The pH shall be monitored by grab samples taken at representative locations. On a monthly basis, Massport shall report the average monthly flow value and maximum daily flow value in gallons per day (gpd), and the value of the pH (the average value of all of the representative sampling location results), reported as Standard Units (SU), on DMRs by the 15th of the following month.

The following has been added to Footnote 13, Part I.A.5 of the permit, to clarify that the flow shall be estimated by using the flow model:

> Flow shall be estimated quarterly by using the flow model to estimate the flow from the outfalls. The flow model shall consist of a hydraulic model of the Logan Airport drainage system, developed by Massport 180 days from the effective date of the permit. The flow model shall be confirmed by periodic monitoring of the actual flow from the outfalls. Refer to Part I.A.1 of the permit, Footnote 2, for a complete discussion of the flow model. Prior to completion of the flow model, flow shall be estimated based on the BPJ of the permittee.

Changes to permit: Part I.A.1 of the permit, on the table for the measurement frequency and sample type for flow rate, and at Footnote 2, as well as at Part I.A.2 of the permit, on the table for sample type and at Footnote 7. Additionally, Part I.A.5 of the permit, Footnote 13 (see above).

IV.D.3 Comment from Massport on § I.A.1 Effluent Limitations and Monitoring Requirements (Pgs. 3-4): If the final permit requires continuous flow monitoring, Massport requests 12 months from the effective date of the final permit to allow for purchase and installation of continuous monitoring equipment and adequate time to calibrate the equipment to insure accuracy for varying conditions.

IV.D.4 Comment from Delta on § I.C: The time allotted in Section I.C. for installing continuous monitoring stations and implementing the Porter Street monitoring plan is insufficient. The deadlines for these activities must be extended.

Response to Comment IV.D.3-IV.D.4: The final permit has been changed to require flow modeling in place of continuous flow monitoring as described in Response to Comment IV.D.1-IV.D.2. This change is applicable to Part I.A.1, Footnote 2, of the permit, not Part I.C as Delta suggests.

Therefore, the requests for additional time for installing continuous monitoring stations are no longer applicable. However, the time allowed for development of the Porter Street Monitoring Plan and Runway/Perimeter Sampling Plan has been changed to 180 days to allow for implementation and development. Due to the time allowed for development of these plans, the monitoring and reporting requirements for Outfalls 006 (Runway/Perimeter) and 003 (Porter Street) shall be effective in 180 days from the effective date of the permit. The monitoring and reporting requirements for all other outfalls are effective upon the effective date of the permit (See Response to Comment IV.C.1 – IV.C.2).

Change to permit: See Response to Comment IV.D.1 – IV.D.2 for replacement of continuous flow monitoring and Response to Comment IV.C.1 – IV.C.2 for change to allow 180 days from the effective date of the permit for implementation of the Porter Street Monitoring Plan and Runway/Perimeter Sampling Plan and the monitoring and reporting requirements associated with these outfalls.

IV.D.5 Comment from Massport on § I.A.2 WET WEATHER (Pgs. 5-6): Discharges from the Porter Street drainage area will be monitored within the Logan drainage system upstream of its confluence with the BWSC Porter Street drain and prior to the outfall. During dry monitoring and/or less intense precipitation events, accurately determining flow rate may not be feasible or reliable due to the volume of water flowing in the drain pipe. As discussed above in Comment IV.D.1, Massport has presented an alternative flow monitoring approach.

IV.D.6 Comment from Delta: In Section I.A.2 of the Draft Permit, EPA requires flow rate to be monitored using a grab sample. However, grab samples do not always provide a practical means of determining flow rate. Therefore, Delta suggests that EPA substitute flow modeling for flow monitoring.

IV.D.7 Comment from Massport on § I.A.5. Wet Weather (Pgs.11-12): As described in Comment 6 [Comment IV.D.1] above, Massport requests that EPA modify the flow measure and reporting requirements as indicated.

Response to Comment IV.D.5-IV.D.7: The final permit has been changed to require flow modeling in place of flow monitoring as described in Response to Comment IV.D.1-IV.D.2.

Change to permit: See Response to Comment IV.D.1 – IV.D.2 for replacement of continuous flow monitoring.

IV.E COMMENTS RELATED TO pH

IV.E.1 Comment from Massport on § I.A.1 Effluent Limitations and Monitoring Requirements (Pgs. 3-4): The Draft Permit contains a permit limit for pH and a requirement for continuous pH monitoring at three of Logan's major outfalls, 001 (North Outfall), 002 (West Outfall), and 004 (Maverick). Continuous monitoring for pH is unnecessary given historic pH sampling results *(see* Massport Ex. 7, Summary of pH Data Collected at Logan Outfalls, August 30, 2006). Over the last ten years, approximately 1300 measurements of pH have been made of storm water discharges at Logan. Ninety-seven percent of these discharges have been within the current and proposed pH limits of 6.5-8.5. Three percent have been between 6.0-6.5. None have been below 6.0 which is the typical lower pH limit in other NPDES permits. These pH levels have been achieved despite the acidic pH typical of New England's precipitation, which is routinely below 6.0 *(see e.g.* Massport Ex. 8, National Precipitation/pH Map).

IV.E.2 Comment from Delta: EPA has not provided a justification for requiring continuous pH monitoring. Historically, exceedances of pH values have not been recorded and would not be expected. Furthermore, pH is not an indicator of the presence of petroleum or deicing compounds in storm water, or any other pollutant reasonable [*sic*] anticipated in stormwater from Logan and, therefore, monitoring is not appropriate. If EPA determines that some pH monitoring is necessary and justified at the facility under the regulations, recording pH by grab sample will satisfy information needs.

IV.E.3 Comment from Massport on § I.A.1 Effluent Limitations and Monitoring Requirements (Pgs. 3-4): Massport requests that EPA modify the discharge limitation for pH to between 6.0 and 9.0. This is consistent with other NPDES permits for storm water discharges from aviation facilities and appropriately reflects the acidic nature of the local precipitation.

Response to Comment IV.E.1-IV.E.3: As stated in EPA's Gold Book, "pH has a direct effect on organisms as well as an indirect effect on the toxicity of certain other pollutants in the water."[11] The pH effluent limitation in the draft permit of 6.5-8.5 SU is based on the Massachusetts Surface Water Quality Standards 314 CMR 4.05(4)(b)(5) which states

11 Water Quality Critieria for Water 1986 (The Gold Book). (EPA 440/5-86-001, May 1886)

that Class SB waters, "Shall be in the range of 6.5 through 8.5 standard units and not more than 0.2 units outside of the normally occurring range." The pH standard is for the receiving water and not necessarily the effluent, however, standard practice for POTW permits has been to require that the pH match the receiving water classification. In some instances, EPA has allowed a pH range of 6.0-9.0 SU where there is sufficient dilution, which is also in the EPA secondary treatment requirement range for pH. See 40 C.F.R. §133.102.

Due to the dilution and buffering capacity of the receiving water, the pH limit of 6.5-8.5 SU has been changed to 6.0-8.5 SU in the permit. However, pH effluent limits are being retained so that the pH water quality standard of the receiving water shall be protected. In its Certification letter issued pursuant to CWA 401, the State has specified that this condition must be included in the permit for Outfalls 001A, 002A, 003A, and 004A. Thus the EPA is legally required to include the condition.

Additionally, the pH limitation of 6.0-8.5, which was in the previous permit at Outfalls 001, 002, 003, and 004, must be retained in the permit based on the anti-backsliding requirements found at 40 C.F.R. §122.44(l)(1). Although the previous permit did not specify the monitoring conditions required for pH sampling, EPA has chosen to require pH effluent limitations during wet weather, consistent with the draft permit, as well as EPA's expectations of the conditions when the pH of the discharge is expected to fluctuate most, during the first flush of a storm event. Additionally, although the draft permit did not require an effluent limitation for pH at Outfall 003A, the final permit shall require a limit at this outfall in order to satisfy the anti-backsliding requirements. This limit shall be effective 180 days from the effective date of the permit to allow for development and implementation of the Porter Street Monitoring Plan.

The pH limitations at Outfalls 001E and 001D have been replaced with requirements to monitor. Since the pH limit is a water quality-based limit which is not necessary at these internal outfalls, these limits have been removed from the permit.

The sample type of continuous samples for pH, taken by a recorder, has been changed to monthly grab samples based on the comments received. EPA has determined that grab samples will satisfy information needs in order to understand the quality of the water discharged from the outfalls. The permit has been changed at Part I.A.1, on the table for the measurement frequency and sample type for pH and at Footnote 2. On the table, the measurement frequency has been changed from "continuously" to "1/Month" and "recorder" has been changed to "Grab." Footnote 2 has been changed to state, "The pH shall be monitored monthly by grab samples taken at representative locations." Additionally, Part I.A.11 has been modified to clarify that the pH limitations apply only at the designated outfalls.

Changes to the permit: Part I.A.1, addition to Footnote 2 (see above).

Part I.A.1, table for Outfalls 001A, 002A, and 004A, replace "6.5 to 8.5" with "6.0 to 8.5" for pH discharge limitations.

Part I.A.2, table for Outfall 003A, replace "Report" with "6.0 to 8.5," for pH discharge limitations.

Part I.A.4, table for Outfalls 001E and 001D, replace "6.5 to 8.5" with "Report," for both average monthly and maximum daily pH discharge limitations.

Part I.A.11, change to "For the outfalls with pH limits as specified above, the pH of any effluent shall not be less than 6.0 nor greater than 8.5 at any time."

IV.F. COMMENTS RELATED TO BENZENE

IV.F.1 Comment from Massport on § I.A.1 Effluent Limitations and Monitoring Requirements (Pgs. 3-4): The Draft Permit contains a permit limit and monitoring requirement for benzene. This limit is unnecessary given the low level of benzene contained in jet fuel (typically listed as < 1.0 % or unlisted on MSDS forms) and the small amount of other products (e.g. gasoline) stored or used on airport that contain higher levels of benzene. Massport has conducted several rounds of testing for benzene at each major outfall in conjunction with the current NPDES sampling program and found all samples to be below the laboratory detection limit of 1.0 ppb (Massport Ex. 9, Benzene Sampling Results for Logan Airport). Samples were collected during dry and wet weather conditions.

IV.F.2 Comment from Delta: Data collected to date at Logan does not indicate a presence of Benzene in stormwater above the laboratory detection limit, 1 ug/L, and, therefore, there is no reasonable potential nor basis for an effluent limitation for Benzene. Additionally, stormwater discharge is periodic and, even if benzene were present, it would be unlikely to present any risk of a water quality standards violation.

A maximum daily limit for Benzene is not appropriate because the criterion EPA applied, 51 ug/l Benzene, is based upon human health risk, which in turn relates to long-term or chronic rather than acute levels. If a limit were justified, a monthly average is the appropriate limit for criterion addressing chronic or long-term exposure. Furthermore, in establishing the limit, EPA assumed a continuous exposure to benzene, while any actual discharge of Benzene at the airport will be associated with an acute occurrence during a stormwater discharge. Therefore, Delta requests that the Benzene limit be set as an average monthly limit, not as maximum daily limit.

IV.F.3 Comment from Massport on § I.A.1 Effluent Limitations and Monitoring Requirements (Pgs. 3-4): If EPA moves forward with a benzene limit, Massport requests a monthly limit, which is more consistent with the concern of chronic toxicity due to long-term, low-level exposure. Massport also requests that EPA allow a dilution zone and a dilution factor set for each outfall for the benzene limit.

IV.F.4 Comment from Delta: A dilution, or mixing zone, would be appropriate for Benzene at each outfall due to the nature of the criterion, and is available under

applicable regulations. A dilution factor, or mixing zone, can be readily calculated based upon average dilution available at each outfall.

IV.F.5 Comment from Delta: In sampling and analyzing for Benzene, samples will likely require dilution before analysis in order to minimize matrix interferences. Sample dilution influences detection level and, thus, reporting limits. If Benzene limits remain in the permit, the permit must address sampling and analysis, issues relating to laboratory reporting limits which may not be able to meet the 51 ug/L reporting limit due to interference issue, and other technical issues.

Response to Comments IV.F.1-IV.F.5: Massport states that benzene is typically listed at <1.0% or unlisted on MSDS forms for jet fuel. EPA agrees that JET-A usually does not contain higher than 1.0 % benzene. The fact sheet inadvertently cited composition information for types of jet fuels other than JET-A, due to the belief that these fuels were used at Logan. However, as discussed in Response to Comment XI.J.17 – XI.J.19, JET-A is the only jet fuel used at Logan. Although JET-A does not contain as high a percentage of benzene as other types of jet fuels, since it is not mixed with gasoline, small quantities of benzene may still exist in the discharge from Logan. JET-A is a standard kerosene jet fuel which is a complex mixture of petroleum hydrocarbons. JET-A may contain fused polycyclic hydrocarbons as benzene solubles.

Of the four BTEX compounds, benzene has one of the highest solubilities, it is one of the most toxic constituents, and has the most stringent water quality criteria for human health. Because of these reasons, benzene can be considered one of the most important limiting pollutant parameters found in gasoline, diesel fuel, and aviation jet fuel. Building on this premise, benzene can be used as an indicator-parameter for regulatory as well as characterization purposes of storm water which comes in contact with aviation jet fuel, gasoline, and diesel fuel. The primary advantage of using an indicator-parameter is that it can monitor the effectiveness of a treatment process and evaluate the potential impact on the environment.

Based on the data submitted in comments from Massport, specifically Massport Ex. 9 - Benzene Sampling Results for Logan Airport, EPA has determined that an effluent limit for benzene is not warranted at this time as there is no reasonable potential for benzene exceedances. However, since benzene is an indicator of the presence of gasoline, diesel fuel, and aviation fuel, a requirement to monitor for benzene will replace the previous effluent limits. This monitoring will help ensure that the storm water discharges from the airport do not contain excessive quantities of gasoline, diesel fuel, or aviation fuel. The benzene maximum daily effluent limit of 51 ug/L in the effluent limitation tables at Part I.A.1, I.A.4, and I.A.7 of the permit has been replaced with a monitor only requirement.

Changes to the permit: The benzene maximum daily effluent limit of 51 ug/L has been replaced with a monitor only requirement in the tables at Part I.A.1, I.A.4, and I.A.7.

IV.F.6 Comment from Massport on § I.A.5. Wet Weather (Pgs.11-12): Massport requests that EPA delete the benzene monitoring requirement from the Northwest Outfall and the Airfield Outfalls as no fueling and/or maintenance is conducted in these areas.

Response to Comment IV.F.6: Monitoring of the Northwest Outfall and the runway/perimeter outfalls for the presence of benzene has been included in the permit based on the vehicle access allowed in the drainage systems of these areas. This requirement has been retained in the permit.

Change to permit: none.

IV.G. COMMENTS RELATED TO PAH

IV.G.1 Comment from Massport on § I.A.1 Effluent Limitations and Monitoring Requirements (Pgs. 3-4): Massport requests that EPA replace PAH monitoring with petroleum hydrocarbon analysis. The Fact Sheet indicates that PAH monitoring is required for the purpose of identifying specific hydrocarbon fractions of oil and grease to better address how to control these constituents and possibly identify their source. While PAHs are present in petroleum products, relative concentrations of the eight PAHs listed will not identify the type of product. A petroleum hydrocarbon fingerprint analysis is more appropriate for determining the source of petroleum impacts.

IV.G.2 Comment from Delta: PAH monitoring is also unnecessary. Hydrocarbon analysis would be more appropriate to determine specific hydrocarbon fractions of oil and grease so that EPA can determine how to control these constituents and identify the source of the petroleum products. Delta believes that a petroleum hydrocarbon analysis is more appropriate for determining the source of impacts and how to control these constituents.

Response to Comments IV.G.1-IV.G.2: PAH monitoring produces more specific results than petroleum hydrocarbon analysis. While PAH monitoring gives a break down of the hydrocarbons present in the sample, petroleum hydrocarbon analysis does not. Petroleum hydrocarbon analysis produces results similar to those detected in an oil and grease test. As stated in the Fact Sheet Part VI.E.2.c, p.22, an oil and grease test does not differentiate between a variety of hydrocarbons or food based oils which it could detect. Monitoring for PAHs will identify specific hydrocarbon fractions of oil and grease in the discharge. This should allow the permittees to better address how to control these constituents and to help identify their source. It will also allow the EPA and MassDEP to consider the potential impacts of such discharges.

Change to permit: none.

IV.G.3 Comment related to PAHs from MA Riverways: A parallel argument can also be put forward for increased sampling for PAHs during wet weather events. We fully support the addition of specific PAH monitoring given the toxicity of PAHs to aquatic and marine organisms and the huge volumes of fuel handled at the airport. PAH

sampling is a much needed addition and we would like to argue for more frequent sampling than proposed in the draft permit. There are numerous potential sources of PAH's to this system – some under the direct control of MassPort and others that are not. With sampling done only quarterly, there is a greater chance the quantity of PAHs released from the impervious surfaces at Logan will be under represented by a single quarterly sample. With only one scheduled quarterly sampling, it is unlikely the most intense rain event or the runoff mobilizing the largest accumulated PAHs load will be captured each quarter. How was it determined quarterly monitoring is a sufficient frequency to characterize the PAH load the airport is contributing over time to the receiving waters? If there are dry weather discharges at this site, has consideration been given to dry weather monitoring of PAHs as a pro-active way to ascertain if there is some underground leak or cross connection?

Response to Comment IV.G.3: EPA has retained the quarterly PAH monitoring in the final permit, despite requests to change the monitoring to petroleum hydrocarbon analysis. The quarterly monitoring frequency was chosen to obtain enough PAH data to develop a characterization of each outfall, while at the same time not requiring overly burdensome monitoring requirements. Refer to Response to Comment IV.A.2 – IV.A.3 concerning monitoring frequency justification. Refer to Response to Comment IV.A.9 concerning dry weather discharges.

Change to permit: None, but see Response to Comment IV.A.2 – IV.A.3 concerning monitoring frequency justification and Response to Comment IV.A.9 concerning dry weather discharges.

IV.G.4 Comment from Anjie Preston: Pollutants, including but limited to: Polynuclear Aromatic Hydrocarbons ("PAHs"), Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b&k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Naphthalene need to be averaged for monthly reporting to determine patterns of discharge; in both wet and dry weather conditions.

Response to Comment IV.G.4: The permit retains the requirement to report the maximum daily value of the PAH compounds. The maximum daily value of each PAH compound and the sum of these maximum daily values, reported as total PAHs, represent the worst case scenario of total PAHs discharged.

Change to permit: none.

V. Deicing

V.A. Comments related to Deicing Concerns

V.A.1 Comment from Pasquale Caruso: And another thing, like this de-icing, we understand it's necessary because naturally you have to get the ice off the planes and the runways they have to get the snow. And, again, it goes into these drains, where's it go?

Into the harbors. It seems like it's irresponsible if all these drains don't have some kind of filter because it seems like anything would help.

And getting back to de-icing, that glycol, which is the two agent chemicals in there, I don't know if people remember, but back a few years ago at the Ted Williams Tunnel there was an onion smell and part of that problem had to do with the de-icing, and if anybody drove through the Ted Williams Tunnel you got a burning sensation in your eyes. And, again, this has to do with the de-icing, because the de-icing gets into the roadway, whether it's the runway or whatever, and it gets into the ground, and somehow it gets into the water which is underneath the ground. So, if they had like a better system as far as trying to collect this, collect this de-icer, instead of have it go into the water, that would – I'm sure that would help.

Response to Comment V.A.1: During a deicing event, deicing and anti-icing chemicals mix with precipitation and discharge into the harbor from areas where the chemicals are applied. As described in the Fact Sheet, deicers are mainly applied to aircraft on terminal aprons and directly onto active runways. Deicers can also be applied to adjacent areas where airplanes travel on the ground (taxi) and where service vehicles travel. Therefore, the majority of deicers are discharged from the West Outfall 002, the North Outfall 001 and from the runway and perimeter storm water outfalls where deicers are being applied on the open runway. Deicers are also discharged at the Porter Street Outfall 003 where deicers are applied to allow service vehicles to fuel and obtain deicers stored in the drainage area. The area also includes Massport's maintenance area.

Additionally, storm water contaminated with deicer runs off the runways and leaches into the soils adjacent to the runways before reaching a storm water catch basin. The contaminated groundwater that does not discharge into the Boston Harbor is not a subject of this permit. Any concerns about deicer discharging into groundwater need to be addressed outside of the context of this permit with MassDEP. However, some of the groundwater drains into the perimeter and runway storm water drainage system. According to Massport, "[a]irfield runoff flows across the grass infield to catch basins located primarily in areas between the runways and taxiways. The catch basins are connected by underground drain lines leading to a series of outfalls along the perimeter of the airfield which discharges to Boston Harbor. Groundwater also discharges through the drainage system in those areas of the airfield where an under drainage system exists." See *Logan Airside Improvements Planning Project*, Supplemental Draft Environmental Impact Statement/FEIS, pp. 5-56 & 5-57. Therefore, some of the groundwater contaminated with deicer discharge to Boston Harbor through the perimeter and runway drainage system.

Part I.D has been added to the permit to require a Water Quality Study regarding deicer. While the Study will be focused on the effects of deicer on surface waters, as is appropriate in a study being required by a Clean Water Act permit, it should yield some information on groundwater that ultimately discharges to surface waters (see Responses to Comments V.A.4 and X.A.5).

This permit does not require Massport to filter, collect or treat storm water containing deicer at this time. EPA has chosen a phased approach for the permitting of the major outfalls that discharge deicers and the 44 perimeter and runway storm water discharges (Perimeter Outfalls) at this facility. Very little and old analytical data exists for the North Outfall and the West Outfall. The Fact Sheet notes three sampling rounds performed in 1991 and 1992 for the North and West outfalls. No known monitoring data for deicers exist for the perimeter and runway outfalls. Therefore, EPA has determined that not enough data exists to make an informed decision to require technology or water quality based numeric effluent limits. If numeric effluent limits are required in the future, this could in effect require the filtering, collection or treatment of the storm water.

However, this permit requires Massport to monitor for deicers (ethylene glycol, propylene glycol, nonylphenol, and tolyltriazole) and the indicator pollutant parameters affected by deicers or degraded by deicers (whole effluent testing, BOD5, COD, and total ammonia) in addition to requiring the Water Quality Study discussed above. This permit also requires implementation of a SWPPP which includes development of BMPs to reduce deicing and anti-icing sources. The duration for this permit will be five years. As appropriate, additional controls could be imposed in the next permit. Also, if the monitoring shows water quality standards are not met, EPA has the authority to modify the permit in accordance with 40 C.F.R. § 122.62.

Change to permit: None, but see Response to Comment V.D.2 concerning the addition of the Water Quality Study at Part I.D of the permit.

V.A.2 Comment from Public Meeting on 10/5/06: Are some deicers more toxic than others?

Response to Comment V.A.2: Refer to Response to Comment V.A.5 for a discussion of the composition of deicers and V.B.1 for additional discussion of deicers.

Change to permit: none.

V.A.3 Comment from Public Meeting on 10/5/06: Would it be possible for Massport to use a less toxic deicer during a monitoring event and a more toxic deicer during a non-monitoring event?

Response to Comment V.A.3: Massport and the Co-Permittees use mainly propylene and ethylene glycol-based deicing agents. Also, Massport sometimes uses urea as a runway deicing product. It seems very unlikely that Massport could change what it uses to avoid effective monitoring. Moreover, Massport is required to provide a representative sample of a deicing episode. If Massport did not supply a representative sample, it could be subject to enforcement action.

Additionally, Part I.B.7.a of the permit requires that each permittee/Co-Permittee maintain a record of the types of deicing chemicals used, including all deicing chemicals,

not just glycols and urea. Co-Permittees that conduct deicing operations must provide a copy of the records to Massport for inclusion in any comprehensive airport SWPPPs.

Change to permit: none.

V.A.4 Comment from Public Meeting on 10/5/06: Need to know where deicers are going.

Response to Comment V.A.4: As noted on Page 25 of the Fact Sheet, Massport data from early 1990's storm water sampling shows that the average storm water discharge through the North Outfall (001) contains about 87 mg/L propylene glycol and 617 mg/L ethylene glycol and the average storm water discharge through the West Outfall (002) contains about 196 mg/L propylene glycol and 285 mg/L ethylene glycol.

Although sampling will provide a general picture of the deicer amounts at the outfalls during specific conditions, EPA agrees that further information on the fate and transport of deicer should be obtained. The Water Quality Study added as a requirement to the permit in Part I.D in response to Comment V.D.2 should help to determine where the deicer is going. The following has been added to Part I.D of the permit, as part of the Water Quality Study, "The Water Quality Study shall include an analysis of quantities of deicer used and the concentration of deicer chemicals in direct and indirect surface water discharges."

Change to permit: Part I.D of the permit added partly in response to this comment; refer to Response to Comment V.D.2 for the entire Water Quality Study requirements.

V.A.5 Comment from MA Riverways: Are all of the substances used in the deicing process known and no additional or new deicing products permitted without approval? Are all drains with the potential to receive runoff from plane deicing being monitored for ethylene glycol, propylene glycol, tolyltriazole and nonylphenol?

Response to Comment V.A.5: The exact composition of all deicers is not known. The manufacturers of the deicer decline to disclose certain information concerning these chemicals because the chemicals and the concentrations in the deicers are considered trade secrets that would compromise their business's ability to compete if the information was disclosed. However, it is known that many of the deicers contain ethylene glycol and propylene glycol (as stated in the permit application), and may contain additives such as corrosion inhibitors, flame retardants, wetting agents, identifying dyes, and foam suppressors.[12] All discharges (Outfalls 001, 002, 003, and 006) with the potential to receive runoff containing deicer are required to be monitored for ethylene glycol, propylene glycol, tolyltriazole (a common corrosion inhibitor and flame retardant), and nonylphenol (a nonionic surfactant used to reduce surface tension) during two deicing events per deicing season. Additionally, the permit requires Whole Effluent Toxicity Testing at Outfalls 001, 002, and 003, during the 1st and 3rd year deicing seasons of the permit.

12 Preliminary Data Summary on Airport Deicing Operations. (EPA-821-R-00-016, August 2000)

Introduction of a new deicing product at Logan will require Massport and/or the Co-Permittees to modify their SWPPP. Part I.B.3 of the permit states, "Massport and the Co-Permittees shall account for any changes that occur at Logan which could impact the Plan and amend the SWPPP to reflect any changes. Massport shall be required to provide an annual report that includes the proper certification to EPA and the MassDEP documenting that the previous year's inspections and maintenance activities were conducted, results recorded, records maintained, and that Massport is in compliance with the SWPPP." Therefore, the SWPPP is subject to annual EPA review, as appropriate, and shall include "a record of the types of deicing chemicals (including the Material Safety Data Sheets [MSDS]) used and the monthly quantities, either as measured or, in the absence of metering, as estimated… this includes all deicing chemicals, not just glycols and urea, because large quantities of these other chemicals can still have an adverse impact on receiving waters" (Part I.B.7.a of the Permit).

Change to permit: none.

V.A.6 Comment from MA Riverways: Might some of the deicing materials flush into the storm drains during use, (when it is unlikely there is much runoff due to the frozen conditions) and become trapped in the storm drain system until snow melt or runoff flushes it to the receiving waters? Are there residual materials left on the runway surfaces that may be found and washed into the stormwater system when there is actual storm/snow melt runoff? If these are possibilities, additional monitoring may be warranted to capture the concentration of deicing substances in stormwater flows.

Response to Comment V.A.6: It is possible for discharges from airport deicing/anti-icing operations and from runway maintenance to occur during dry weather conditions either due to snow melt runoff or due to freezing conditions (without precipitation). Although these discharges are described as "non-storm water discharges" in the Fact Sheet, since they do not occur during a storm event, the discharges are still related to storm events. These discharges are required to be monitored in Parts I.A.7 and I.A.8 of the permit (refer to Response to Comment IV.A.9 for more information concerning dry weather discharges).

Change to permit: none.

V.A.7 Comment from MA Riverways: Deicing sampling requirements in the draft permit are limited to when major airlines are deicing. What constitutes a 'major' airline? Are there instances where smaller airlines could be deicing but not major airlines? What percentage of deicing fluids (volume and frequency) is used by major airlines versus non-major airlines? If the non-major airlines use a majority of the deicing material or if there is a higher percentage of deicing fluid spilling on to the impervious surfaces of the airport during minor airline deicing, the permit sampling regime may not be the most advantageous for capturing the potential impacts of the deicing operations on the harbor and bay and should be reconsidered.

Response to Comment V.A.7: The conditions requiring deicing are regulated by the FAA and apply to both major and minor airlines. In response to this comment, Footnotes 10 and 11 of the permit have been changed for clarification purposes. The phrase, "owned by the major airlines," has been removed from the definition of a wet weather deicing episode in both Footnotes.

Change to permit: Remove "owned by the major airlines" from the definition of a wet weather deicing episode in Footnotes 10 and 11.

V.A.8 Comment from MA Riverways: We also commend the level of detail in and the reporting requirements associated with the deicing and anti icing chemicals required in the draft permit. This is a superb and great addition to the permit.

Response to Comment V.A.8: EPA agrees with Riverways that the addition of the reporting requirements in the permit is a beneficial addition to the permit in order to accurately characterize the discharges from the airport.

Change to permit: none.

V.A.9 Comment from Massport: Massport is particularly concerned with the provisions in the Draft Permit that address DAC controls and discharges. As explained below, the current provisions raise issues of consistency with legal requirements, Massport's obligation to airport safety and efficient operations and sound public policy. To address these issues, this letter describes an alternative proposal by Massport premised on first understanding DAC discharges and impacts and then taking reasonable measures that will effectively address those impacts.

V.A.10 Comment from Massport: Proceeding with extensive DAC controls before understanding DAC use, discharges and water quality impacts is unreasonable.

The DAC control requirements presented in the Draft Permit and accompanying Fact Sheet are not based on site-specific information regarding the characterization of DAC discharges or potential water quality impacts on Boston Harbor. Although the existence of an environmental problem has not been established and the nature and extent of the discharges has not been assessed, EPA is nevertheless requiring extensive DAC controls. This unreasonably places Massport and the Co-Permittees in the position of developing expensive and potentially disruptive pollution prevention measures without first understanding the nature and scope of DAC environmental impacts at the Airport and leaves EPA with no reasonable basis for evaluating the effectiveness of the mandated control measures. As the following comments demonstrate, there is not a water quality-based issue associated with the Airport's discharges. In the absence of a relevant effluent limitations guideline (ELG), there are no specific Best Conventional Pollution Control (BCT) or Best Available Technology Economically Achievable (BAT and collectively BAT/BCT) standards to apply. The permit writer is left with using Best Professional Judgment (BPJ), which Massport asserts was arbitrarily applied in this instance. EPA should instead rely on a more flexible application of existing BMPs and other controls,

recommended throughout these comments, until EPA finalizes a deicing ELG (representing BAT/BCT) before adopting the controls proposed in the Draft Permit.

V.A.11 Comment from Massport: The Draft Permit lacks the factual basis for establishing the relationship between DAC use, discharges and impacts at the Airport.

To date, no water quality studies have demonstrated that DAC use at the Airport violates Boston Harbor water quality standards. The Fact Sheet states that DAC generally poses two potential water quality risks - reduction of dissolved oxygen (DO) and the introduction of potential toxic additives (Fact Sheet at 24). The Fact Sheet contains the conclusory statement that the "concentration of propylene glycol and ethylene glycol in a discharge of storm water directly effects [sic] the water quality of the receiving water" *(id.* at 32). The Fact Sheet, however, contains no site-specific details on how DAC discharges affect water quality in Boston Harbor. To the contrary, the Fact Sheet indicates that the receiving waters around the Airport have *not* been listed in the Massachusetts 303(d) report for violations of the standards for DO or toxics associated with DAC *(id.* at 12). The absence of any demonstrated water quality impact from DAC discharge is consistent with the effects of high tidal exchange around the Airport, the high levels of DO during the winter, and reaeration in Boston Harbor. The effects of tidal exchange alone are dramatic - within a single day, the storm water at the North Outfall is diluted by 500 to 1,000 times by the tidal prism *(see* Application Pursuant to the NPDES Individual Stormwater Discharger Permit Associated with Industrial Activities of Logan International Airport, October 1, 1992 at C-4).[13] This high rate of flushing in Boston Harbor is well established by years of study by MWRA and others *(see e.g.* www.mwra.state.ma.us/harbor/html/soh20027.htm) and is one of the reasons why Boston Harbor water quality has been steadily improving in recent years. This contrasts sharply with the receiving waters of many airports across the country which are fresh water systems with limited flushing.

According to the study on receiving water quality that Massport submitted with its 1992 permit application, DAC use at the Airport poses no material risk to Boston Harbor water quality. This included analysis of both glycol and urea. The study assessed the effect of DAC on DO, concluding that under a worse case scenario, DAC discharges at the Airport would not result in violations of the DO water quality standards *(id.* at C-12). It also evaluated the toxic risk of DAC discharges and concluded that it posed no toxic risk to aquatic organisms *(id.* at C10). The analysis conservatively assumed that (a) all deicing operations used propylene glycol (which has the highest BOD levels), (b) the storm event would discharge 24,500 gallons of glycol solution out of the North Outfall, (c) the glycol solution would mix with only *one* tide over a five day period (as opposed to the approximately ten that would actually occur), and (d) no reaeration would occur *(id.* at C-ll through C-12). No other evidence in the record addresses DAC impacts on the

13 The tidal prism is the change in the volume of water covering an area between a low tide and the subsequent high tide.

receiving waters around the Airport.[14] At a minimum, this strongly suggests that the permit should address an updated water quality analysis *before* requiring the implementation of any substantial control measures.

The Fact Sheet supports Massport's position that the Draft Permit is not based on actual DAC use at the Airport. With respect to DAC use, the Fact Sheet notes that Massport and the Co-Permittees use mainly propylene and ethylene glycol-based deicing agents as well as urea and acknowledges that no data exists at the Airport on toxic pollutants from DAC (Fact Sheet at 24 and 26). The Fact Sheet does not contain any information on the volume of DAC use at the Airport and its only information on DAC discharges comes from limited sampling conducted nearly 15 years ago, consisting of three samples with disparate results. While additional DAC information was available from Massport, it was not requested by EPA.

V.A.12 Comment from JetBlue Airways: EPA has not demonstrated the existence of an environmental problem nor the nature and extent of discharges at Logan. As explained more fully by the Massachusetts Airport Authority ("Massport"), the draft Permit fails to provide substantiation for many of its statements including the following: "the concentration of propylene glycol and ethylene glycol in a discharge of storm water directly affects [sic] the water quality of the receiving water." The fact sheet is devoid of any discussion as to how deicing and anti-icing chemicals impact the current Boston Harbor and the EPA relies on outdated information as to the volume of deicing and anti-icing chemicals used at Logan. As shown in the fact sheet, in the early 1990's a limited number of samples were collected at Outfall 001 for ethylene glycol, propylene glycol, BOD_5, and ammonia. This data is not statistically significant and not reflective of current deicing operations. It is premature to impose new collection and monitoring requirements without basing those requirements on up-to-date and accurate information.

Response to Comments V.A.9 – V.A.12: EPA has taken Massport's and JetBlue's comments into consideration, and revised the permit as described in Response to Comments V.B.4 – V.B.7. EPA also acknowledges the comments concerning the statement in the Fact Sheet that the "concentration of propylene glycol and ethylene glycol in a discharge of storm water directly effects [sic] the water quality of the receiving water." EPA would like to clarify that EPA did not mean to imply that there is currently evidence of the discharges from the airport causing or contributing to a water quality violation. However, the requirement for Massport to perform a Water Quality Study (as described in Response to Comment V.D.2) will help increase the understanding of the discharges from the airport in order to determine whether the discharges from the airport cause a water quality violation. See Response to Comment V.E.11 – V.E.13 concerning EPA's authority to monitor in the absence of available data on a pollutant in order to gain further information to determine whether the discharge causes, has the

14 *See also* 5 *Years After Transfer of Deer Island Flows Offshore: an updated of water quality improvements in Boston Harbor,* David 1. Taylor, MWRA, September 2006 (Massport Ex. 1). With respect to DO, this report notes that over the past 11 years, 1994 to 2005, the harbor wide bottom DO concentrations exceeded the water quality standard of 6 mg/l both in the summer and winter months, with a typical range from about 7 mg/l in the summer to 11 mg/l in the winter *(id.* at 53).

reasonable potential to cause, or contributes to an excursion above a numeric or narrative water quality criterion.

Change to Permit: See Response to Comments V.B.4 – V.B.7 and Attachment A to this Response to Comments Document for the BAT/BCT Analysis.

V.B. Comments related to Reasoning of Deicer Requirements in Permit

V.B.1 Comment from MA Riverways: The Fact Sheet provided some telling water quality data for the North Outfall (001). It appears BOD_5 is consistently elevated. This information suggests there is enough data to impose a permit limitation in this draft permit and not wait until more information is gathered. This permit has been administratively continued for two plus decades making any further delay in addressing probable and likely water quality issues related to the discharges a true disservice to the goal of protecting the receiving waters. This is especially true of Toytriazole [*sic*] and Nonlyphenol. If national guidance exists for these two highly toxic substances than [*sic*] it would be protective of the receiving waters to adopt them in this permit immediately and not wait additional years to institute protections of the waterways.

Response to Comment V.B.1: EPA has recently discovered these compounds (tolyltriazole and nonylphenol) in some of the deicer used by the Airline Industry. The makers of the deicer decline to disclose information concerning these chemicals because the chemicals and the concentrations in the deicer are considered trade secrets that would compromise their business's ability to compete if the information was disclosed. However, with no sampling data available to technically support the need for a numeric effluent limit and assess the risk (and thus no clear basis to require effluent limitations at this time), EPA has decided to require monitoring of the discharge of these chemicals during deicing events to support any future decision regarding deicer. Additionally, EPA is requiring in this permit, as part of the Water Quality Study, a requirement to calculate a dilution factor for each outfall, for potential use by EPA and MassDEP in order to establish water quality based limits in the future, if necessary. EPA is also requiring WET testing in this permit, in order to gain further evidence to help determine whether the discharge causes, has the reasonable potential to cause, or contributes to an excursion above a numeric or narrative criterion for whole effluent toxicity. Furthermore, EPA is requiring in this permit the development and implementation of BMPs to address deicer discharges, including these chemicals.

EPA has chosen a phased approach for the permitting of the storm water discharges at this facility that may contain these chemicals. Based on information that will be gathered during the duration of this permit, EPA should be able to make an informed decision at the time of the next permit issuance, or through a permit modification when appropriate, whether implementing best management practices at Logan is sufficient to protect the water quality of the receiving waters or whether numeric effluent limits for these chemicals are necessary.

Change to permit: none.

V.B.2 Comment from Delta: ***There are No Demonstrated Water Quality Impacts That Require the Level of Controls Imposed by the Draft Permit.***

Because EPA has neither established the existence of an environmental problem at the airport nor determined the nature and extent of the discharges and water quality impacts on Boston Harbor, the burdensome permit conditions and DAC controls of the Draft Permit are not reasonable nor justified. DAC conditions cannot be justified as WQBELs because there is no evidence that DAC has the reasonable potential to cause or contribute to a violation of water quality standards. See 40 C.F.R. §122.44(d). There have been no water quality studies that have demonstrated that DAC use at Logan violates Boston Harbor water quality standards. Water quality in Boston Harbor has actually been improving during the past 15 years and we are aware of no assessment which attributes any impairment to Logan operations.

In the Fact Sheet accompanying the Draft Permit, EPA explains that DAC use at Logan poses two potential water quality risks, namely reduction of dissolved oxygen ("DO") and the addition of potential toxic additives. However, the receiving waters for Boston Harbor around the airport have not been listed on the 303(d) list for DO or toxics associated with DAC or any other airport operation. DAC use is unrelated to any potential impairment in Boston Harbor, which is currently identified as potentially impaired in some areas for priority organics (e.g. PCBs in fish tissue or PAHs in sediment or emanating from waste sites) or pathogens (identified in Draft Pathogen TMDL for Boston Harbor Watershed (MADEP, EPA, undated) as related to numerous causes (including numerous combined sewer overflows, sanitary sewer overflows, illicit discharges and connections, wildlife, stormwater from residential, commercial, industrial as well as undisturbed sites). Accordingly, EPA's conditions relating to DAC at Logan are not justified as there can be no reasonable potential that DAC utilization causes or contributes to a water quality standards violation, and, therefore, there is no basis for the permit conditions related to DAC.

In addition, in developing permit conditions EPA has failed to consider the significant dilution effects associated with the tidal waters around Logan. With a few minor exceptions, discharges under the Draft Permit will occur during rain events when dilution in receiving waters is at its maximum. These facts were considered in a study on receiving water quality (submitted by the airport with its 1992 permit application) which concluded that the use of DAC at the airport poses no material risk to Boston Harbor water quality. Without information to support the intense DAC controls and permit conditions included in the Draft Permit, Delta believes that EPA has not provided a proper basis for the Draft Permit. It is unreasonable for EPA to charge the airport and the co-permittees (including Delta) with developing expensive and burdensome pollution prevention measures without any indication of the nature and scope of water quality issues related to DAC use at the airport.

Response to Comment V.B.2: EPA has taken Delta's comments into consideration, and revised the permit as described in Response to Comments V.B.4 – V.B.7. EPA also is

requiring in the permit monitoring and studies to assess whether the deicer discharges are causing any water quality problems (See Response to Comments V.E.11 – V.E.13).

In response to the comment concerning dilution, EPA has not established any water quality based permit conditions in this permit, which would be based on dilution calculations (with the exception of an effluent limitation for pH which has been included in the permit for Outfalls 001A, 002A, 003A, and 004A based on State Water Quality Certification as well as anti-backsliding). Therefore, EPA did not need to consider dilution effects in establishing the conditions of this permit. If EPA did establish water quality based effluent limits, then tidal influence would be a valid factor in assisting the determination of the limits. Although EPA did not need in this instance to consider tidal influences, since the requirements established in the draft permit did not warrant it, EPA will consider tidal influences in the case that a permit modification or permit re-issuance establishes water quality based effluent limitations.

Additionally, Part I.D.3 of the final permit requires calculation of a dilution factor for each outfalls for use when assessing reasonable potential in order to establish water quality based limits in the future, if necessary (See Response to Comment V.D.2).

Change to permit: Addition of Part I.D.3 to the permit, Dilution Factor, as follows, "To supplement the Water Quality Study, Massport shall calculate a dilution factor for each outfall, for potential use by EPA and MassDEP in order to establish water quality based limits in the future, if necessary. Massport shall calculate and submit the calculated dilution factors to EPA and MassDEP within a time frame established in Massport's plan and shall report and assess the results in the Water Quality Study Report." Also, see Response to Comments V.B.4 – V.B.7.

V.B.3 Comment from MA Riverways: The draft permit is requiring *report only* monitoring for the perimeter outfalls at Logan based on the pucity [*sic*] of existing data to determine probable cause for exceedences. This is a distressing approach to take if only because this facility is operating on a permit issued more than a quarter of a century ago. Delaying the implementation of any permit limitations because of the paucity of data emphasizes the problems with such long delays in review and renewal of permits. Might a numerical limitation be added to the permit now based on best professional judgment. If the Permittee is meeting the limit than [*sic*] all is well and the existence of a permit limit is not a hindrance and if testing shows concentrations above accepted standards or guidance than there is already a limitation in place to serve as a water quality goal and protect receiving water quality.

Response to Comment V.B.3: As noted in part VI.F of the Fact Sheet, p.28-29, not enough data has been collected to determine whether numeric effluent limits are necessary. Thus, EPA is requiring monitoring of the storm water discharges as well as development of a comprehensive SWPPP with BMPs. BMPs are considered non-numerical effluent limitations for the storm water discharges. Additionally, the results of the Water Quality Study required to be performed by Massport in accordance with this permit will lead to supplemental BMPs, if necessary. If any of the monitoring data

required by the permit suggests that there are water quality violations occurring on the receiving waters, EPA or the MassDEP can modify the permit to add numeric effluent limits.

Change to permit: none.

V.B.4 Comment from Massport: Cost to comply is significant.

The estimated costs to comply with the Draft Permit, which includes controls on DAC application and runoff, are potentially enormous. Massport has reviewed other airports' control costs and estimated the potential costs to comply with the Draft Permit. The potential preliminary estimated *capital* costs for Massport and the Co-Permittees range from approximately $70 million to $175 million *(see* Massport Ex. 2, Summary of Estimated Costs to Comply with the Draft Permit, Tables 1 and 2). These capital costs are highly dependent on which controls are found to be appropriate and necessary, the storage options used and the potential disposal options that could be adopted by Massport. Moreover, the annual compliance costs for Massport and the Co-Permitees will be substantial, without even accounting for the costs to operate and maintain the DAC controls.[15] The costs to comply with the other requirements in the Draft Permit will cost Massport in excess of $1.8 million in the first year and nearly $1 million each year thereafter *(see id.,* Table 1). Additionally, the total annual compliance cost for the approximately 25 Co-Permitees is estimated to range between $62,000 and $675,000 for the development of pollution prevention plans and between $75,000 and $350,000 annually for employee training and site evaluations *(see id.,* Table 3).

V.B.5 Comment from Massport: Without a better understanding of DAC use, discharges and impacts, EPA cannot meet its regulatory burden to justify the costs imposed by the Draft Permit.

Without a sound understanding of DAC discharges and their potential effect on surrounding water quality, EPA cannot reasonably or legally justify the costs of the Draft Permit's extensive DAC requirements. The Draft Permit does not state the basis for these DAC requirements. Given the lack of receiving water data indicating the potential for a water quality standard violation, Massport presumes that EPA's basis is the technology-based requirements of 33 U.S.C. § 1311(b), which would require BCT for pollutants that affect DO and BAT for toxic pollutants.[16] Determining BAT/BCT requires a basic understanding of DAC discharge and its impacts in order to determine the environmental benefits of proposed controls. BCT requires, among other things, a comparison of the cost of reducing DAC to the effluent reduction benefits achieved as well as a comparison of the cost-benefit ratios of reducing DAC at a POTW versus the Airport.[17] *(see* 40

15 These costs to operate the ultimate DAC collection and/or control system that was adopted are substantial but are not included in these estimates.

16 In the past, EPA has used BCT and BAT to justify the pollution prevention plan and BMP requirements in the Multi-Sector General Permit. *See* 65 FR 64759 (October 30,2000) and 60 FR 50812 (September 29, 1995).

17 This ensures that the costs of BCT are comparable to the costs of secondary treatment. *See e.g.* EPA NPDES Permit Writers' Manual at 52 (December 1996).

C.F.R. § 125.3(d)(2)). BAT requires, at a minimum, knowledge of which toxic pollutants are targeted for control and a baseline of those pollutants to determine the limitation level and cost of control (40 C.F.R. § 125.3(d)(3)).

Determining the appropriate technology requirements and whether such requirements meet the cost-effectiveness mandates of the Clean Water Act generally is the work of EPA through its ELG development process. That process currently is ongoing for DAC operations. Hence, because of the lack of an ELG, the EPA permit writer in this instance must rely on BPJ and an assessment of what BAT/BCT for the industry might be. Based on EPA's past analyses of the air transportation industry *(see e.g.* EPA's MSGP) or other comparable individual stormwater permits, the current Draft Permit fails to build on a series of BMP-based approaches and may inhibit future application of BAT/BCT upon EPA's completing its current ELG rulemaking effort. If Massport is forced into an overly prescriptive technology-based approach at this time, and the DAC ELG demonstrates that BAT/BCT is represented by a more flexible approach, Massport will have expended scarce resources arbitrarily, and the Clean Water Act's anti-backsliding requirements may prohibit Massport from altering its approach. Instead, EPA should work with Massport to promulgate a protective permit based on flexible approaches with a time line consistent with the EPA's ELG.

Neither Massport nor EPA currently possess the necessary information to fulfill the legal prerequisites for BAT/BCT. This lack of data is reflected in the Draft Permit and Fact Sheet, which are silent on whether the Draft Permit's control requirements are consistent with BAT/BCT. The explanation of the DAC requirements in the Fact Sheet is limited to a statement that the BMP Plan will identify DAC sources and adopt pollution prevention techniques within six months of the effective data of the permit (Fact Sheet at 36). No other explanation or justification is provided for this extremely burdensome component of the permit.[18]

To the extent EPA may be relying on Massport to develop data to justify DAC control requirements, EPA must first afford Massport the necessary time to conduct a thorough analysis of DAC use, discharges, and potential water quality impacts on Boston Harbor, if any. Otherwise, Massport will have no reasonable basis for developing controls and EPA will have no reasonable basis for requiring them or for reviewing them. As such, the process laid out by EPA is arbitrary and inappropriate.

V.B.6 Comment from United Airlines: Standards Selection Inconsistent with Statutory and Regulatory Authority

United Airlines is concerned that the effluent limitations that would be applied under the Draft Permit are not supported by authority granted to the Agency under the federal Clean Water Act.[19] This concern is particularly acute in connection with the effluent

18 Compare this with the Fact Sheet for the Multi-Sector General Permit, which is careful to base its BMP and pollution prevention plan requirements on "a consideration of the appropriate factors for BAT and BCT requirements, and a consideration of the factors and options discussed in this fact sheet for controlling pollutants in storm water discharges associated with industrial activity." 60 FR 50812.
19 33 U.S.C. 1251, *et seq.*

limitations required to be expressed in the *Best Management Practices Plan* (the "BMPP"),[20] including those contained in the *BMP Plan for Identifying and Eliminating Deicing and Anti-icing Sources*[21] and *Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals*.[22]

As the Agency is of course aware, each effluent limitation imposed by the Draft Permit must reflect either the applicable technology-based standard or any more stringent state water quality standard.[23] Discharges of stormwater associated with industrial activity, of which the deicing and anti-icing discharges to be regulated under the Draft Permit are principally comprised, are expressly subject to regulation under these same provisions.[24] We believe that the Draft as published does not impose these required standards.

Normally, the Fact Sheet appended to a draft permit describes the basis of each of the permit's conditions.[25] Here, however, the Fact Sheet provides only a general recitation of the controlling law, with no specific explanation of the authority under which the requirements of the BMPP and other permit conditions are imposed. Without such a clear statement, it is difficult to comment fully on the adequacy of these effluent limitations.

What is reasonably clear from the Fact Sheet, however, is that the Agency is not intending to assert that the BMPP constitutes a water quality-based effluent limitation. The Fact Sheet explains that Deicing and Anti-icing Chemicals ("DAC") pose two theoretical water quality risks – reduction of dissolved oxygen and the introduction of potential toxic additives.[26] The Fact Sheet states without support or analysis that the "concentration of propylene glycol and ethylene glycol in a discharge of storm water directly affects [sic] the water quality of the receiving water."[27] The Fact Sheet, however, contains no data or details on how DAC affects water quality in Boston Harbor. In the absence of such data and analysis, the inclusion of the BMPP could not be supported as a water quality-based effluent limitation.

Thus, the BMPP must, by default, be a technology-based limitation. This would be consistent with the use of Best Management Practices as the technology-based limitations in EPA's own 2006 Multi-Sector General Permit.[28] Unfortunately, the BMPP does not appear to reflect the technology-based standards established by the Act.

---

20 Draft Permit, Part I.B, at 21 of 43.
21 Draft Permit, Part I.B.7, at 29 of 43.
22 Draft Permit, Part I.B.8, at 30 of 43.
23 *See* 33 U.S.C. §§ 1331(b)(1)(A) and (C) and 1342(a)(1).
24 33 U.S.C. § 1342(p)(3)(A).
25 40 C.F.R. § 124.8(b)(4) (requiring that a Fact Sheet contain a brief summary of the basis for the draft permit conditions, including references to applicable statutory or regulatory provisions and appropriate references from the administrative record).
26 Fact Sheet at 24.
27 *Id.* At 32.
28 3.26 Selection and Implementation of Stormwater Controls

….Best Management Practices are considered Best Available technology economically achievable (BAT) and Best Conventional Technology (BCT) for most stormwater discharges….." *U.S. Environmental*

Applicable treatment standards are Best Conventional Pollutant Control Technology[29] ("BCT") (for conventional pollutants) and Best Available Technology Economically Achievable[30] ("BAT") (for toxics and non-conventional pollutants). These standards require the establishment of guidelines identifying levels of treatment reflective of certain existing industry practices, after taking into account those practices' applicability to differently configured industrial sites and the economics of their application. Where these standards have not been established on a nationwide basis in an Effluent Limitations Guideline (as is the case for the airport deicing industry), the permit writer must establish them in the same way on a case-by-case basis using his or her Best Professional Judgment ("BPJ").[31]

The treatment standards to be embodied in the BMPP bear little resemblance to the statutory definitions of "Best Conventional Treatment" or "Best Available Treatment." Rather, the BMPP must be written to other standards, variously described in the Draft Permit as follows:

> ". . . shall thoroughly evaluate all potential pollutant sources at the site and select and implement appropriate measures designed to **prevent or control** the discharge of pollutants to the outfalls." Draft Permit, Part I (B)(4) (emphasis added), at 23 of 43;
>
> "…BMP Plan must provide measures, determined to be **reasonable and appropriate**, to be implemented and maintained." Draft Permit, Part I (B)(6)(e)(vi) (emphasis added), at 27 of 43;
>
> "Massport and the Co-Permittees that use deicing chemicals shall develop Standard Operating Procedures (SOPs) to **prevent or minimize** the release of deicing chemicals to the storm water drainage systems. . . ." Draft Permit, Part I (B)(7)(d) (emphasis added), at 29 of 43;
>
> "…Massport and the Co-Permittees shall evaluate and recommend a plan to **greatly reduce or eliminate** the discharge of deicing chemicals from storm water and the storm water drainage system. . . ." Draft Permit, Part I (B)(8) (emphasis added), at 30 of 43,
>
> "…shall describe and implement a program in the PPP to **control and manage** contaminated runoff during wet weather conditions to **reduce or eliminate** the amount of deicing chemicals being discharged…". Draft Permit, Part I (B)(8)(b) (emphasis added), at 31 of 43, and;

Protection Agency 2006 Proposed Reissuance of National Pollutant Discharge Elimination System (NPDES) Stormwater Multi-Sector General Permit for Industrial Activities Fact Sheet, at 52.

29 33 U.S.C. § 1314(b)(4).

30 33 U.S.C. § 1314(b)(2).

31 See 33 U.S.C. § 1342 (a)(1) and 40 C.F.R. § 125.3(c)(1) and (2).

> "Massport shall submit a report to EPA and the MassDEP with recommendations to **implement new procedures** to **minimize the discharge** of deicing chemicals to Boston Harbor, Boston Inner Harbor and Winthrop Bay." *Id.* (emphasis added).

Because these standards bear no discernable relationship to the statutory standards for BCT or BAT, it is unlikely that they satisfy the terms of the Act.

Not surprisingly, the Fact Sheet makes no mention of any material contained in the administrative record reflecting an analysis of the kind required to develop BPJ estimates of BCT and BAT. This is problematic both because Fact Sheets prepared to support draft permits issued by EPA are required to reference record materials supportive of the decisions reflected in the draft permit,[32] and because the federal permitting regulations so explicitly identify the factors that must be considered when developing a BPJ technology-based permit.

For a BPJ determination of BCT, for example, the regulations require consideration of the following seven factors (including two separate cost tests):

> "(i) The reasonableness of the relationship between the costs of attaining a reduction in effluent and the effluent reduction benefits derived;
>
> (ii) The comparison of the cost and level of reduction of such pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources;
>
> (iii) The age of equipment and facilities involved;
>
> (iv) The process employed;
>
> (v) The engineering aspects of the application of various types of control techniques;
>
> (vi) Process changes; and
>
> (vii) Non-water quality environ- mental impact (including energy requirements)"[33]

Similarly, a BPJ assessment of the BAT standard is required to include consideration of the following six factors:

> "(i) The age of equipment and facilities involved;

32 See 40 C.F.R. §§ 124.8(b)(4) and 124.9.
33 40 C.F.R. 125.3(d)(2).

(ii) The process employed;

(iii) The engineering aspects of the application of various types of control techniques;

(iv) Process changes;

(v) The cost of achieving such effluent reduction; and

(vi) Non-water quality environmental impact (including energy requirements)."[34]

It is difficult to conceive of a properly-derived BPJ estimate of BCT or BAT at a facility as complex and unique as Logan International Airport that leaves no written record of the consideration of these important factors. Indeed, EPA Headquarters recently announced that it was extending the time for its development of a proposed Effluent Guideline Limitation for the airport deicing industry for an additional 2 years, from September of 2007 until December of 2009, *precisely because of the difficulty it has encountered in evaluating this complex and atypical industry*.[35] It is no surprise, then, that the permit writer here, endowed with far fewer resources and a fraction of that time, has been unable to complete the same task. ***Nonetheless, it is the completion of that task that must occur before BPJ technology-based limits can be established for inclusion in the Draft Permit.***

The only way in which this permitting could proceed without a ground-up re-evaluation of its BPJ effluent limitations would be if it incorporated the effluent limitations already adopted by EPA for this industry in the Multi-Sector General Permit ("MSGP"). The MSGP, as the Agency knows, is the national statement of BCT and BAT standards for storm water associated with industrial activities that is generated by a host of individual industries. Sector S of the MSGP expressly establishes the BCT and BAT requirements applicable storm water associated with aircraft and airport pavement deicing activities.[36] To the extent that the standards of the MSGP reflect Agency judgment of the content of BCT and BAT limitations for these storm waters, separate BPJ estimations of those some limitations are impermissible or, at the very least, must describe and justify any deviation from the uniform national standards established by the MSGP. While adoption of the MSGP's articulation of BCT and BAT effluent limitations for storm water associated with deicing activities could not provide a basis for technology-based effluent limitations for other sources to be governed by the Draft Permit, it arguably provides the only legally supportable basis for those limitations as applied to storm water associated with aircraft and airfield deicing activities.

---

34 40 C.F.R. 125.3(d)(3).

35 See 71 Fed. Reg. 23,226 at 23,381 (April 24, 2006).

36 The 2000 MSGP was issued on October 30, 2000. 65 Fed. Reg. 64,746 (October 30, 2000). By its terms, that permit expired at midnight on October 30, 2005. A renewal of the 2000 MSGP was proposed in late 2005. 70 Fed. Reg. 72,116 (December 1, 2005). The comment period for that renewal closed on February 16, 2006, and the Agency continues to work toward promulgation of the renewed MSGP.

Based upon the above analysis, United requests that either the MSGP standards be applied or EPA conduct the proper analysis demonstrating how the standards expressed in the Draft Permit meet BCT or BAT at Logan International Airport.

V.B.7 Comment from Delta: ***EPA Has Not Satisfied its Regulatory Burden to Justify the Costs Imposed by Conditions in the Draft Permit***

In light of the lack of demonstrated water quality impacts from the use of DAC at Logan, EPA has not met its regulatory burden to justify the costs that the Draft Permit will impose on the airport and the co-permittees if it remains unchanged. The Draft Permit doe not provide any basis for the multiple layers of DAC requirements. Therefore, because a basis has not been provided, and because there is no available water quality data indicating a violation or potential violation of a water quality standard, it appears that EPA used the technology-based requirements of the Clean Water Act (33 US.C. §1311(b); 40 C.F.R. Part 125) to establish the DAC controls in the Draft Permit. The technology-based requirements require a consideration of Best Conventional Pollution Control ("BCT") for DO and Best Available Technology Economically Achievable ("BAT") for toxic pollutants. Each of these analysis requires a basic understanding of the environmental effects of DAC and the costs of reducing DAC. The information necessary to determine BCT/BAT is not currently available and, therefore, the costly conditions imposed by the Draft Permit are unjustified.

Response to Comments V.B.4 – V.B.7: In response to these comments (and other comments), EPA has made a number of changes to the permit provisions governing the development of a Storm Water Pollution Prevention Plan (SWPPP) and the implementation of Best Management Practices (BMPs) pursuant to the SWPPP. First, the EPA has clarified that the BMPs are to be designed and implemented so as to meet the applicable Clean Water Act (CWA) technology-based standards, namely Best Available Technology Economically Achievable (BAT) for toxic pollutants (such as the propylene glycol and ethylene glycol contained in many deicers), and Best Conventional Pollutant Control Technology (BCT) for conventional pollutants (including BOD - which relates to deicing; fecal coliform - which relates to potential bacteria sources; oil and grease - which relates to fuel and oil sources; and TSS - which relates to rubber removal sources). Second, the EPA has done a written analysis (attached to this Response to Comments) which documents why doing a SWPPP and designing and implementing BMPs is necessary in order to meet the BAT and BCT standards. Third, with respect to deicing (on which the comments were focused), EPA has replaced the prior draft permit provisions with revised provisions incorporated from the year 2000 Multi-Sector General Permit (MSGP-2000). See 65 FR 64844, Section 6.S.5. EPA believes that these changes address the problems raised by the commenters - to the extent that is reasonable - for the reasons explained below.

Specifying That BMPs Must Meet BAT and BCT Standards

Permit Condition I.B.1 has been revised to specify that, "[P]ursuant to the SWPPP, BMPs shall be designed and implemented so as to meet the applicable Best Available Technology Economically Achievable/Best Conventional Pollutant Control Technology (BAT/BCT) standards required by the Clean Water Act ...." This responds to United Airline's comment, which criticized the draft permit for setting standards for development and implementation of BMPs that allegedly were different from these statutory standards. The revised language covers BMPs to be developed under all parts of the SWPPP. With respect to deicing, the specific references which could have been read as potentially setting different standards (e.g., "greatly reduce or eliminate") have been removed from the permit. However, certain other general provisions regarding development of the SWPPP and BMPs have been retained, e.g., the specification that, "[M]assport and the Co-Permittees shall thoroughly evaluate all potential pollution sources at the site and select and implement appropriate measures designed to prevent or control the discharge of pollutants to the outfalls." (See Part I.B.4 of the permit.) The EPA believes it is inherent in the BAT and BCT standards that compliance measures will be thoroughly evaluated and that pollution will be prevented or controlled. But the EPA has clarified in the final permit (See Parts I.B.4, I.B.6.e, I.B.6.e.vi, and I.B.2 of the permit) that efforts to evaluate and control pollutants are to occur "so as to meet the CWA standards set out in Part I.B.1. of this permit." Thus the permit is clear throughout that it is the statutory standards that control.

EPA believes it is appropriate to require the development of BMPs by the permittees without delay (utilizing the correct statutory standards). None of the commenters suggested that there is any reason for delay with respect to BMPs for pollutants other than deicer. However, Massport suggested that the development of BMPs for controlling Deicing and Anti-icing Chemicals (DAC) should wait until after Massport conducts a site specific Water Quality Study. EPA does not agree with this Massport comment. As further explained below, the EPA believes that requiring Massport and the Co-Permittees to follow the same requirements for deicer (and only the same requirements) as are specified for the many other permittees covered under the Multi-Sector General Permit is reasonable now. As explained in Response to Comment V.D.2, EPA agrees that Massport should carry out a Water Quality Study. But the Water Quality Study results should be used to examine whether there are site specific water quality concerns that justify developing BMPs that go beyond the minimum nationally mandated measures. The prospect of a Water Quality Study does not justify exempting Massport from having to implement the minimum MSGP requirements - as a starting point - now.

The MSGP requirements regarding DAC - incorporated into this permit - impose the requirement that BMPs be developed so as to meet technology-based requirements. Technology-based requirements are to be applied throughout an industry without regard to receiving water quality. Appalachian Power Co. v. EPA, 671 F.2d 801 (4th Cir. 1982) (BPT). Massport is mistaken in suggesting that until it further studies potential water quality impacts, "[M]assport will have no reasonable basis for developing controls and EPA will have no reasonable basis for requiring them or reviewing them." This is especially clear because deicers contain toxic pollutants and thus are subject to the BAT standard. The statutory factors required to be considered in setting BAT do not include

any reference to water quality analysis. See CWA 304(b)(2)(B). This reflects the intent of Congress that toxic pollutant discharges must be reduced without waiting for water quality analysis. EPA agrees that having more information about water quality impacts could improve the BCT analysis, since BCT analysis includes an assessment of "the reasonableness of the relationship between the costs of attaining a reduction in effluents and the effluent reduction benefits derived" and "the comparison of the cost and level of reduction of such pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category or industrial sources...." CWA 304(b)(4)(B). However, it is possible to do a BCT analysis now which specifies a level of control based on the assumption that DAC is not causing any water quality violations, subject to increased controls later if the Water Quality Study shows any water quality violations. In any event, controls on DAC need to be developed now to meet the BAT standard - and thus the permit conditions would be justified even if Massport was correct (which it is not) that it is premature to set controls based on the BCT standard.

The EPA also does not believe that requiring the permittees to track the statutory requirements when developing the BMPs is vague. The factors to be considered when doing a BAT analysis or a BCT analysis are spelled out in the statute. Measures implemented (e.g., under the MSGP) at other airports around the country will be available as a guide. Moreover, EPA Region I anticipates providing permit oversight as the permittees develop the SWPPP. The permittees may consult with the Region if particular implementation questions arise. This should help address any concerns about the permit conditions being vague.

BAT/BCT Analysis

The EPA has done a written analysis which documents why doing a SWPPP and designing and implementing BMPs is necessary in order to meet the BAT and BCT standards. This is in response to comments suggesting that there needed to be such an analysis. The EPA does not necessarily agree that such an analysis is required at this time. The permit does not impose specific BAT and BCT-based requirements - rather it simply specifies that BMPs constituting BAT and BCT must be developed. While a BAT and BCT analysis is appropriate to be done when developing the required BMP measures, it does not necessarily need to be done in order to simply specify that there will need to be compliance with the BAT and BCT standards. The initial requirement to do a SWPPP is a planning requirement, and the EPA has the authority to require studies to help determine what is BAT and BCT, without necessarily having to do an initial BAT and BCT analysis. See CWA 308(a).

In addition, as conceded by United Airlines in its comments, "[t]he ... way in which this permitting could proceed without a ground-up [BAT and BCT] re-evaluation of its BPJ effluent limitations would be if it incorporated the effluent limitations already adopted by EPA for this industry in the Multi-Sector General Permit...." With respect to deicing (on which the various comments were focused), the EPA has now incorporated the General Permit requirements. With respect to the other pollutants of concern, the Region has

tailored the permit requirements in light of local conditions but is following the same basic approach as the General Permit. EPA Region I does not necessarily need to do its own BAT and BCT analysis when incorporating provisions already determined by EPA HQ to be in compliance with all statutory requirements.

The Region nevertheless has done a BAT and BCT analysis in order to make clear how the various permit requirements have been crafted in light of the required statutory factors. The written analysis is attached to this Response to Comments as Attachment A.

As further explained in Attachment A, the kinds of measures which this permit contemplates will be implemented do appear to be required to meet the BAT and BCT standards. The kinds of measures contemplated by this permit have been widely employed across the country to meet these standards. Moreover, most of the BMPs have yet to be developed, and will by definition (as specified in the permit) be what is required to meet the statutory standards. With respect to deicers, this permit requires nothing with respect to the SWPPP and BMPs not also required by the General Permit. With respect to other pollutants, while much discretion is left to the planning process and the permittees, there are certain minimum common sense provisions required by the permit which this Region believes should be included in a sound SWPPP (e.g., generally doing major maintenance work indoors). These minimum requirements are justified by the statutory analysis. Finally, to control bacteria, the permit includes a requirement for the elimination of any illicit connections to Massport's separate sewer system. Although this requirement is included as part of the SWPPP-BMP provisions, and could be justified based on the BCT analysis, it is based on the specific statutory requirement of CWA 402(p)(3)(B)(ii). Thus it clearly is lawful (and needed).

Incorporation of Multi-Sector General Permit Requirements

For DAC, the EPA has decided to incorporate the provisions of the year 2000 Multi-Sector General Permit (MSGP-2000) (see 65 FR 64844, Section 6.S.5), as part I.B.7 of the final permit. While the General Permit is in the process of being reissued, the new permit has not yet gone final. Thus the Region incorporated the provisions of the most recently available final permit, the 2000 General Permit. For DAC, the proposed new General Permit is substantially identical to the 2000 General Permit. Thus by incorporating the provisions of the year 2000 General Permit, the Region is imposing appropriate and up-to-date requirements.

The EPA was persuaded by various comments that for DAC, it should not attempt in this permit to go beyond the requirements of the General Permit. Discharges of DAC do present environmental concerns, and should be reduced to meet technology-based requirements. But at this time, there is not current evidence that the discharges are causing water quality violations and thus not now a basis for imposing additional water-quality based requirements. Moreover, Massport has offered to do a site-specific Water Quality Study. It is reasonable to wait for the results of this study before imposing DAC requirements which go beyond the General Permit requirements.

However, EPA was not persuaded that anything less than the General Permit requirements should apply pending the completion of the Water Quality Study. As discussed above, DAC needs to be controlled to meet the technology-based standards, whether or not DAC discharges are causing water quality violations. The General Permit requirements set a well-established framework for achieving the technology-based standards. The development of a SWPPP and BMPs is an iterative process - it makes sense for Massport and the Co-Permittees to establish minimum controls now, while potentially increasing the controls later if evidence develops regarding water quality problems.

Finally, EPA notes that the approach of the General Permit (now adopted for DAC in this permit) is to require permittees to consider various control measures when developing their SWPPP, but without mandating in advance any particular measures. Moreover, this permit specifically does not contemplate that Massport must install extensive treatment systems for deicer, unless this is shown to be necessary by the Water Quality Study or unless this is required by a national effluent guideline standard. Thus Massport's assertion in its comments that this permit's DAC provisions will inevitably impose large costs on Massport and the Co-Permittees (e.g., $70 million to $175 million of capital costs) does not appear to be accurate with respect to the final (or draft) permit.

Change to permit: Addition of phrase "so as to meet the CWA Standards set out in Part I.B.1 of this permit" to Parts I.B.4 (two places), I.B.6.e, I.B.6.e.vi, and I.B.2 of the permit. Addition of "Pursuant to the SWPPP, BMPs shall be designated and implemented so as to meet the applicable Best Available Technology Economically Achievable/Best Conventional Pollutant Control Technology (BAT/BCT) standards required by the Clean Water Act…" to Part I.B.1 of the permit. See Response to Comment V.D.2 and Attachment A for a discussion of the BAT/BCT analysis and Response to Comment V.D.2 concerning the change to deicer requirements to be consistent with the MSGP requirements for deicer.

<u>V.B.8 Comment from Massport:</u> The DAC requirements are premature and prevent Massport from utilizing critical information being developed by EPA and the National Academy.

By requiring DAC measures now, EPA and Massport will miss an opportunity to use the extensive information and recommendations being developed by EPA and the Airport Cooperative Research Program (ACRP).

As you know, EPA is currently developing comprehensive, nationwide effluent limitation guidelines (ELG) for DAC. The purpose of the ELG is to develop guidelines and standards, including pollution prevention plans and BMPs that meet the technology-based standards such as BAT and BCT *(see e.g.* Notice of Preliminary Effluent Guideline Plan, 69 FR 53706). As an initial step, EPA is collecting detailed information from airports and airlines, including information on airfield and aircraft deicing operations and chemical usage, deicing stormwater collection and treatment systems, pollution prevention plans and BMPs, pollutant monitoring and environmental assessment, and the financial

information and data necessary for economic impact analysis. This information will form the basis of a draft ELG, due in December 2007. EPA plans to finalize the ELG in September 2009.

On a parallel track to the ELG, the ACRP is researching DAC use, impacts and mitigation. Managed by the National Academy's Transportation Research Board, the ACRP is a multi-stakeholder effort, consisting of airport professionals, state and local government officials, equipment and service suppliers, other airport users, and research organizations, that carries out applied research on problems that are shared by airport operating agencies and are not being adequately addressed by existing federal research programs. To address DAC, the ACRP is initially investing $1.125 million in three research initiatives. Over the next two years, these initiatives will:

> Research the mechanisms of ice formation, retention, and removal from critical aircraft surfaces to better understand the quantities and timing of aircraft deicing/anti-icing fluids (ADAF) application so that both operational safety and environmental protection are assured. Application technologies, materials, surface treatments, or coatings that might optimize ADAF will be evaluated along with ice and moisture detection sensors, chemical concentration sensors, and temperature sensors that will permit evaluation of critical aircraft surfaces from the cockpit.
>
> Research alternative aircraft and airfield deicing and anti-icing formulations with reduced aquatic toxicity and biological oxygen demand. The research will (1) define the present state of the art of ADAF with respect to minimizing their aquatic toxicity and BOD_5; (2) identify ADAF components causing aquatic toxicity and BOD_5; (3) identify promising alternative ADAF formulations with reduced aquatic toxicity and BOD_5; (4) evaluate the performance, efficiency, material compatibility, and environmental, operational, and safety impacts of these alternative ADAF formulations compared with current commercial products; and (5) describe the fate and transport of ADAF and their degradation products.
>
> Develop planning guidelines incorporating an array of BMPs for the practical, cost-effective control of runoff from aircraft and airfield deicing and anti-icing operations. These planning guidelines and BMPs will (1) be consistent with the laws and regulations for protecting water quality and ensuring flight safety; (2) provide practical technical guidance to airports and local, state, and federal regulators; and (3) support the U.S. EPA's ongoing efforts to gain better information on how airports manage ADAF-affected storm water runoff.

The Draft Permit requires the development of a DAC Pollution Prevention Plan and BMPs within six months of the effective date of the Permit. If implemented as currently written, Massport will be unable to benefit from the information developed through the ELG and ACRP processes. As a result, Massport and the EPA could miss opportunities to implement measures that are more protective of the environment and more cost-effective

than those in the Draft Permit. Moving forward now also creates the risk that EPA will approve a pollution prevention plan and BMPs for Logan that are ultimately inconsistent with the ELG. Given the environmental concerns and the expense of implementing DAC measures, both Massport and EPA have an obligation to get the pollution prevention plan and BMPs right the first time. The final permit should allow development of the pollution prevention plan and BMPs over a time frame that parallels the ELG and ACRP process. Only then will Massport and its Co-Permittees be able to develop and implement a DAC program that is compliant with and compliments the NPDES permit and the final ELG.

V.B.9 Comment from Delta: ***EPA Should Not Regulate DAC Prior to Completing its Own Rulemaking Process***

It is premature for EPA to regulate DAC prior to completion of its own development of comprehensive, nationwide ELGs for DAC. EPA is in the process of developing guidelines and standards, such as pollution prevention plans and BMPs, that meet technology based standards such as BAT and BCT. Notice of Preliminary Effluent Guidelines Plan, 69 Fed. Reg. 53705 (Sept. 2, 2004). As part of this process, EPA is collecting data from airports and airlines nationwide concerning the use of DAC, collection and treatment systems, pollution prevention plans, monitoring information, environmental assessments, and financial information. EPA plans to issue a draft ELG in December 2007 based on the information collected. The requirements in the Draft Permit to provide information similar to the data collection being performed as part of the process to develop an ELG is, therefore duplicative and unnecessary. In addition, Draft Permit requirements involving the establishment of pollution prevention plans and BMPs are premature and procedurally flawed in light of EPA's development of these same standards through the ELG. For these reasons, Delta recommends that EPA remove the data collection requirements and to coordinate the timeframes associated with the development of pollution prevention plans and BMPs to coincide with the timeframes established in EPA's ELG process.

V.B.10 Comment from JetBlue Airways: The draft Permit is similarly premature in requiring co-permittees to develop a Best Management Practices Plan before deicing effluent guidelines have even been promulgated. We are aware of ongoing studies and efforts to develop comprehensive effluent limitations guidelines. JetBlue believes the better practice would be to require the Best Management Practices Plan to be developed contemporaneous with EPA's effluent limitations guidelines rather than developing and implementing plans that are not accurate or, even worse, inconsistent with the ultimate effluent limitations guidelines.

V.B.11 Comment from United Airlines: The Draft Permit DAC Requirements Are Premature

There are a whole host of problems with the DAC PPP and BMP requirements. First, as discussed above, the standards surrounding the DAC requirements do not meet BAT or BACT standards. Second, also as discussed above, the DAC requirements conflict with safety and FAA requirements. Third, the timing of the DAC requirements does not make

sense given (as discussed above) that EPA is currently conducting a multi-year process to evaluate airport deicing information to develop an Effluent Guideline Limitation (ELG). The purpose of the ELG is to develop guidelines and standards, including pollution prevention plans and BMPs applicable to the application of DAC at airports. Fourth, the requirements are simply unreasonable and burdensome without adequate justification, given that these requirements can be extremely costly and significantly impact airport operations and there are no documented impacts to receiving water quality as a result of discharges from the airport. Without water quality information, it is not possible to develop the appropriate and effective pollution prevention plans ("PPPs") and best management practices ("BMPs") as described in the Draft Permit. The Draft NPDES permit for Massport and Co-Permittees prematurely jumps ahead of these efforts by requiring extensive data gathering during storm events, studies of DAC alternatives and development of DAC controls. *Interestingly, the Fact Sheet does not even provide any information to suggest that studies are currently underway that may be relevant to this requirement (or even address the DAC PPP requirements).*

The Fact Sheet does not provide receiving water impairment data to support DAC requirements, in fact, it supports a conclusion that DAC is <u>not</u> impacting receiving water. The Fact Sheet provides that "[a]n excursion occurs if the projected or actual in-stream concentration exceeds an applicable water quality criterion." (*See* page 11 – Section B. Water Quality-Based Requirements). There is no data presented that illustrates DAC concentrations (or degradation products) were measured at each outfall that have the potential to result in impacts to the receiving waters such that in-stream concentrations would exceed water quality standards (numerical or narrative) or result in designated use impairment. In fact, receiving waters are not listed as impaired due to low dissolved oxygen, ammonia, or toxics which supports the notion that there is either no impact to receiving waters from DAC or that there is not enough data to reach any conclusion. The Fact Sheet states "[w]ater quality levels in Boston Harbor have improved greatly and DO concentrations levels have been stable in the harbor's waters over the past 10 years."(*See* Page 43 – Section VIII Essential Fish Habitat). The Fact Sheet goes on to reference a MWRA report that demonstrates that average DO concentrations in the harbor are in accordance with water quality standards. The Fact Sheet further states that "[t]his Draft Permit requires Massport to perform monitoring during wet weather deicing episodes at the four major outfalls (001, 002, 003, and 004) to establish the impact of the release from deicing chemicals at the storm water discharges." (*See* Page 24 – Section E.4). Monitoring of concentrations at the outfalls does not measure impacts, it only provides chemical concentrations at outfalls. Impacts to receiving waters can only be determined or predicted by measuring or modeling in-stream (receiving water) concentrations.

Without information to support the intense DAC controls and permit conditions included in the Draft Permit, United believes that EPA has not provided a proper basis for the Draft Permit. It is unreasonable for EPA to require the Airport and the Co-Permittees to develop expensive and burdensome DAC measures without any indication of the nature and scope of water quality issues related to DAC use at the airport.

United recommends the following to address the concern that the DAC requirements are premature. First, there clearly needs to be an analysis of the water quality of the receiving waters. This would include the review of available data and, where data are lacking, allow for studies to determine the appropriate discharge concentrations taking into consideration mixing zone and tidal influences. However, in advance of the study being completed, United recommends that the Draft Permit provide for the Co-Permittees to continue to implement DAC procedures already in place that have previously been developed by the individual Co-Permittees in order to ensure safe operations and the efficient use of DAC fluid. Such procedures might include (*by way of example only*): specific deicing operator training to ensure proficiency, equipment maintenance to ensure peak performance, effective airfield communication to anticipate field closings to minimize redundant applications, etc.

Response to Comments V.B.8 – V.B.11: While EPA Region I is aware of the development by EPA HQ of ELGs for deicer, and of the ACRP research, the Region is also aware of the time delays that research and development may encounter, as well as time delays dependent on the extent of any litigation. Due to the already extensive amount of time that the permit has been expired and administratively continued, the Region has decided not to wait for issuance of the ELGs or ACRP research. The Region believes that issuance of the permit as soon as possible is necessary in order to effectively monitor the discharges from Logan, and to put into place minimum controls through development of a SWPPP and BMPs.

However, the Region has been persuaded that it makes sense to hold off on requiring measures relating to DAC which go beyond the already established requirements of the EPA's General Permits. See Response to Comments V.B.4 to V.B.7. Thus the draft permit provisions regarding the BMPP and PPP for deicer have been replaced with language incorporated from the MSGP-2000. As explained above in the Response to Comments V.B.4 to V.B.7, this was done in order to allow time for a site specific Water Quality Study. Requiring compliance only with the minimum long established requirements of the General Permit also is justified in order to avoid imposing additional technology-based requirements which could vary from the ultimately adopted ELGs.

But the fact that EPA HQ is developing an ELG does not justify having no requirements relating to DAC in this permit. These permittees should not be excused from having to comply with the long standing requirements set forth the in General Permit and already determined to be necessary to meet the BAT and BCT standards, just because the EPA is considering adopting additional requirements. The EPA also notes that the SWPPP-BMP process is designed to be an iterative one. What BMPs are appropriate may change over time, in response to a variety of factors. This is natural and to be expected, and not a justification for doing nothing just because there is the possibility of future change.

With respect to United Airline's suggestion that the permit require compliance only with the permittees' DAC procedures that already are in place, the Region also believes that this is not the appropriate standard - or necessarily sufficient. Rather, the permittees should comply with the minimum requirements already established under the General

Permit for many similarly situated permittees. But the kinds of measures pointed to by United Airlines as already being conducted (specific deicer operator training to ensure proficiency, equipment maintenance to ensure peak performance, effective airport communication to anticipate field closings to minimize redundant applications) may well constitute appropriate BMPs. When doing the SWPPP analysis required by the permit, the permittees may take credit for the continuation of already existing measures, if the measures are effective.

Upon issuance of the ELGs for deicer, the permittee and Co-Permittees will be required to supplement the BMPs developed under the SWPPP, as necessary, to be consistent with the newly issued ELGs. This requirement has been added to Part I.B.8.b of the permit, Re-evaluation of BMPs.

If the permittees are to be allowed to follow only the requirements of the General Permit pending the development of an ELG, then it is appropriate that the permittees at least be required to adopt any additional requirements imposed by the ELG when it is nationally adopted.

In its comments, United Airlines also criticizes the permit requirement for outfall monitoring during deicing episodes, by pointing out that such outfall monitoring will not itself measure water quality impacts. However, outfall monitoring provides critical information which will assist in judging water quality impacts. Modeling could be done by the regulators utilizing the outfall monitoring results. Moreover, the outfall monitoring will be done in conjunction with the Water Quality Study being required by this permit, which together should yield solid information about water quality impacts.

Change to permit: Addition of the following to Part I.B.8.b, "Upon finalization of any Airport Deicing Effluent Limitation Guidelines (ELGs), the permittee and Co-Permittees are required to supplement the BMPs developed pursuant to the SWPPP, as necessary, to be consistent with the newly issued ELGs."

See Response to Comments V.B.4 – V.B.7 and V.D.2 concerning change of draft permit deicer requirements at Part I.B.7 of the permit to be consistent with that of the MSGP-2000.

V.B.12 Comment from United Airlines: Monitoring Requirements. We believe the permit monitoring requirements are excessive. A review of comparable NPDES permits for both Region 1 and other airports demonstrate that the Draft Permit is requiring significantly more monitoring of Massport than of similarly situated airports. These requirements are also substantially more burdensome than the Multi-Sector General Permit (MSGP). Similarly, there is little information presented in the Fact Sheet to demonstrate a need to increase the monitoring effort at the airport. Impairment of receiving waters should be demonstrated before additional requirements are enforced in the permit.

The permit monitoring requirements should be modified to relate to the requirements of the MSGP and of similar airport NPDES Permits.

Response to Comment V.B.12: The requirements of the BMPPP for Identifying and Eliminating Deicing and Anti-Icing Sources have been replaced with language incorporated from the MSGP-2000 as described in Response to Comment V.D.2 (See also Response to Comments V.B.4 – V.B.7).

Additionally, monitoring has been revised throughout the permit. At Outfalls 001, 002, and 004, during wet weather, the requirement to monitor flow and pH continuously have been replaced with a requirement to estimate flow and monitor pH monthly (Refer to Response to Comment IV.D.1 – IV.D.2 concerning flow and Response to Comment IV.E.1 – IV.E.3 concerning pH). At Outfall 001, the requirement to monitor the water from the above ground storage tanks and fuel loading rack (001D) and at the setup tank (001E) for flow, pH, O&G, TSS, and benzene, prior to discharge has been changed to monthly and after treatment during discharge (See Response to Comment XI.J.5 – XI.J.12).

Change to permit: See Response to Comment V.D.2 for the replacement of the BMPP for Identifying and Eliminating Deicing and Anti-Icing Sources with a SWPPP for Identifying and Reducing Deicing and Anti-Icing Sources. See Response to Comment IV.D.1 – IV.D.2 for change to flow monitoring in Part I.A.1 of the permit. See Response to Comment IV.E.1 – IV.E.3 for change to pH monitoring. See Response to Comment XI.J.5 – XI.J.12 for change to monitoring of all parameters in Part I.A.4 of the permit.

V.B.13 Comment from United Airlines: Permit Does Not Adequately Address Aviation Safety and Over-Steps Into an Area Highly Regulated under the Federal Aviation Act

The Draft Permit includes several conditions that could result in focusing on reducing deicing discharges at the detriment of safe operations as dictated under the Federal Aviation Act. In particular, there are provisions that would require airline personnel to limit the amount of DAC rather than focus first and foremost on the safety of operations during potentially dangerous winter conditions. Similarly, there are provisions in the Draft Permit that could result in dictating, directly or indirectly, the placement of taxiways, the placement of deicing facilities or activities on or around taxiways, the use of taxiways to access deicing facilities, or other characteristics of the winter ground operations, which is an area of regulation falling squarely within the Federal Aviation Act.

United requests that any reference in the Draft Permit or Fact Sheet that refers to "prevent or minimize" the use of DAC or reviewing "excessive application of deicing chemicals" be stricken from the Permit. These sections include, *without limitation* the following:

> The Fact Sheet does not explain the rationale behind elimination vs reduction or provide a statement of understanding in regards to the priority of passenger and employee health and safety.

Page 23 - Section B.4. This section describes the BMP Plan objectives and it fails to discuss safety and FAA requirements as it relates to compliance with the plan.

Page 30 – Section B.7.d.ii. The Draft Permit states: Massport and the Co-Permittees that apply deicing chemicals to aircraft shall evaluate, whether excessive application of deicing chemicals occurs and adjust as necessary, consistent with considerations for flight safety.

The Pollution Prevent Plan for deicing and anti-icing chemicals (DAC PPP) requirements would substantially interfere with efficient operation of the airport. This interference would be most pronounced during winter storms – a time in which Massport and the airlines can least afford to divert their attention. United requests that any requirements be considered with the obligation that none of these requirements impact the safety of aviation operations and that they must be consistent with FAA regulations.

Similarly, in addition, United requests that *at any point* in the Draft Permit that requires a decision to be made or operations to be reviewed that may impact DAC processes or discharges that it be clearly stated in the Permit that the requirements cannot impact the safety of aviation operations and must be consistent with FAA regulations.

The below discussion will provide additional rationale and legal analysis surrounding this important issue.

A. Pre-emption Legal Doctrine

The legal doctrine of preemption is rooted in the Supremacy Clause found in Article VI of the U.S. Constitution, which provides that federal law shall be the "supreme Law of the Land." Federal law can preempt state law in three ways: (i) field preemption, where federal regulation of a field is so pervasive or the federal interest so dominant that Congress's intent to occupy the entire field can be inferred; (ii) express preemption, where Congress defines explicitly the extent to which particular legislative enactments preempt state law; and (iii) conflict preemption, where giving effect to a state law would actually conflict with federal law or would stand as an obstacle to the accomplishment of the objectives of a federal statute. *See*, *e.g.*, *Gade v. National Solid Wastes Mgmt*., 505 U.S. 88, 98 (1992); *Crosby v. Nat'l Foreign Trade Council*, 120 S. Ct. 2288, 2293 (2000). Regardless of which type of preemption is at issue, the outcome ultimately turns on Congressional intent. *See Cipollone v. Liggett Group, Inc.,* 505 U.S. 504, 516 (1992).

In this particular scenario of a NPDES permit issued by EPA for the Logan International Airport, the primary problem is field preemption based upon the Federal Aviation Act and related regulations. Where federal law is so extensive as to evidence Congressional intent to exercise exclusive control over a given field, any state law or action falling within that field is preempted. *See City of Burbank v. Lockheed Air Terminal, Inc.*, 411 U.S. 624, 633 (1973).

The Federal Aviation Act of 1958 ("Aviation Act") provides, "[t]he United States Government has exclusive sovereignty of airspace of the United States." 49 U.S.C. § 40103(a). The principal objectives of the Aviation Act are to promote safety and efficiency and the development of air commerce. 49 U.S.C. § 40101 *et seq*. To achieve the statutory purposes of the Aviation Act, Congress provided extensive and plenary authority to the Federal Aviation Administration ("FAA") concerning the use and management of the navigable airspace, air traffic control, and air navigation facilities. *See, e.g.,* 49 U.S.C. §§ 40103, 44502, and 44721.

The FAA is to accomplish these objectives by, among other things "controlling the use of navigable airspace and regulating civil . . . operations in that airspace in the interest of the safety and efficiency . . . of those operations . . . ." 49 U.S.C. § 40101(d). Consistent with this, the Federal Aviation Act directs the FAA to promulgate aircraft flight regulations for, among other things, "using the navigable airspace efficiently," and "protecting individuals and property on the ground." 49 U.S.C. § 40103(b)(2). The FAA has exercised this authority by promulgating extensive federal regulations governing the use of navigable airspace and air traffic control.[37]

The Supreme Court seized upon this statutory language to address the scope and preemptive effect of federal aviation law in its seminal opinion in *City of Burbank v. Lockheed Air Terminal, Inc.*, 411 U.S. 624 (1973). In *City of Burbank*, the Court considered the validity of a local ordinance[38] that made it unlawful for so-called "pure" jet aircraft to take off from Hollywood-Burbank Airport between 11 p.m. and 7 a.m. to reduce noise. *City of Burbank*, 411 U.S. at 625-26. The ordinance affected only one scheduled flight, departing every Sunday for San Diego at 11:30 pm. *Id.* at 626.

The Supreme Court held that the ordinance was preempted under the Federal Aviation Act, explaining that "the delicate balance between safety and efficiency . . . and the protection of persons on the ground" imposed by federal aviation law "requires a uniform and exclusive system of federal regulation if the congressional objectives underlying the Federal Aviation Act are to be fulfilled." *City of Burbank*, 411 U.S. at 638-39 (1973) (citations omitted). The Court stated that the pervasive nature of the scheme of federal regulation led it to conclude that Congress had intended to preempt the field of aircraft operations, and that the scope of that preemption reached to local regulations that intruded upon the free flow of aircraft on the ground and in the air. *City of Burbank*, 411 U.S. at 633 According to the Court:

> Federal control is intensive and exclusive. Planes do not wander about in the sky like vagrant clouds. They move only by federal permission, subject to federal

37 *See* 14 C.F.R. Parts 21-49 (certification of aircraft and aircraft maintenance), 61-67 (certification of aircraft crew members and related personnel), 71 (designation of airspace areas; air traffic service; routes), 73 (special use airspace), 91-105 (general operating and flight procedures), 119-39 (certification of operations), 150-69 (airport noise compatibility planning, federal aid, and land acquisition and alteration for airports).

38 Federal preemption of local ordinances is analyzed under the same standards applied to statewide laws and regulations. *See*, *e.g.*, *Hillsborough County, Fla. v. Automated Med. Laboratories, Inc.*, 471 U.S. 707, 713 (1985).

> inspection, in the hands of federally certified personnel and under an intricate system of federal commands. The moment a ship taxis onto a runway it is caught up in an elaborate and detailed system of controls.

City of Burbank, 411 U.S. at 633-34 (quoting *Northwest Airlines, Inc. v. Minnesota,* 322 U.S. 292, 303 (1944) (Jackson, J., concurring)).

B. FAA Requirements Surrounding Deicing

The FAA has a multitude of requirements applicable to the use of DAC. These include regulation references and a whole hose of directives and guidance issued by FAA on the application of DAC.[39] To comply with regulatory requirements to deice airplanes and runways, the FAA requires airlines to develop and follow extensive ground deicing programs. These are strict guidelines that are time sensitive. Flight crews and ground personnel are heavily trained in observation and judgment to comply with these guidelines.

C. Applicability to Draft Permit

Burbank-Glendale-Pasadena Airport Authority v. City of Los Angeles, 979 F.3d 1338 (9th Cir. 1992), applied these principles to invalidate a regulation that only indirectly regulated flights, by restricting airport activities on the ground. In that case, the Ninth Circuit considered the validity of a local ordinance that required City approval of airport runway and taxiway construction projects. The Ninth Circuit held that under *City of Burbank*: "It is settled law that non-proprietor municipalities are preempted from regulating airports in any manner that directly interferes with aircraft operations." *Burbank-Glendale-Pasadena Airport Authority*, 979 F.3d at 1340 (citing *City of Burbank*, 411 U.S. 624; *Gianturco*, 651 F.2d at 1314).

The City of Los Angeles conceded that it was preempted from "controlling aircraft operations," but argued that the ordinance did not impinge upon this preempted area. The Court disagreed, holding that:

> The proper placement of taxiways and runways is critical to the safety of takeoffs and landings and essential to the efficient management of the surrounding airspace. The regulation of runways and taxiways is thus a direct interference with the movements and operations of aircraft, and is therefore preempted by federal law.

Burbank-Glendale-Pasadena Airport Authority, 979 F.3d at 1341.

To the extent that provisions contained in Permit No. MA0000787 dictate, directly or indirectly, the placement of taxiways, the placement of deicing facilities or activities on

---

39 (FAA directives include, by way of example only: FAR Part 121 Sec. 121.629, *Operating Requirements: Domestic, Flag, and Supplement Operations* (effective as of 02/26/99); FAA Advisory Circular: *Ground Deicing and Anti-Icing Program*, AC No. 120-60B (12/20/04); FAA Advisory Circulate: *Hazards Following Ground Deicing and Ground Operations in Conditions Conducive to Aircraft Icing*, AC No. 20-117 (12/17/82); *FAA Notice Guidance and Procedures for Dispatching During Light Ice Pellet and Heavy Snow Conditions*, Notice N. 8000.327 (8/31/06); FAA *Pilot Guide Large Aircraft Deicing*, AC 120-58 (9/30/92); FAA *Winter 2006-07 Deicing/Anti-icing Guidance.*

or around taxiways, the use of taxiways to access deicing facilities, or other characteristics of the winter ground operations, they have the capacity to affect "the safety of takeoffs and landings" and the "efficient management of the surrounding airspace." Similarly, provisions of the permit that control the ability of airlines to apply aircraft deicing fluid to their aircraft , the kinds of fluid utilized, or the rate or concentration at which that fluid may be discharged into the airport's storm water collection system similarly have the capacity to affect the timely and predictable dispatch of aircraft into the national airspace.

As discussed above, United requests that any reference in the Draft Permit or Fact Sheet that refers to "prevent or minimize" the use of DAC or reviewing "excessive application of deicing chemicals" be stricken from the Permit. In addition, United requests that *at any point* in the Draft Permit that requires a decision to be made or operations to be reviewed that may impact DAC processes or discharges that it be clearly stated in the Permit that the requirements cannot impact the safety of aviation operations and must be consistent with FAA regulations.

Response to Comment V.B.13: As discussed below, EPA has modified the permit to avoid any potential conflict with FAA regulation. However, EPA rejects the argument that it is precluded from regulating the discharge of deicer into storm water drainage systems. The arguments presented by United Airlines ("United") are all off point because they all relate to the preemption of state law by federal law. Because the EPA, like the FAA, operates pursuant to federal authority, Article VI and the cases cited by United are inapplicable.

Under 49 U.S.C. § 41713(b), FAA regulation preempts certain state laws relating to price, route, or service of an air carrier. However, Congress has directed the EPA to administer the Clean Water Act ("CWA") pursuant to 33 U.S.C. § 1251(d).

Thus, here, the issue is the application of two federal statutes. While United's comment does not address the application of overlapping federal authority, in such a situation, "courts are not at liberty to pick and choose among congressional enactments, and when two statutes are capable of co-existence, it is the duty of the courts, absent a clearly expressed congressional intention to the contrary, to regard each as effective." *Morton v. Mancari*, 417 U.S. 535, 551 (1974); *J.E.M. AG Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc.*, 534 U.S. 124, 143-144 (2001). In addition, United suggests that the comprehensive FAA regulatory scheme regarding deicers implicitly precludes EPA regulatory authority under the CWA. However, implied repeal of one federal statute by another exists only where the two statutes are in "irreconcilable conflict," or where the latter Act covers the whole subject of the earlier one and "is clearly intended as a substitute." *Posadas v. Nat'l City Bank*, 296 U.S. 497, 503 (1936). Absent any contradiction, "[a]t most, the two statutes may result in promulgation of two sets of guidelines." *Chem. Mfrs. Ass'n v. Envt.l Prot. Agency*, 673 F.2d 507, 512 (D.C. Cir. 1982).

Burbank-Glendale-Pasadena Airport Auth., 979 F.2d 1338 (9th Cir. 1992) and *City of Burbank v. Lockheed Air Terminal, Inc.*, 411 U.S. 624 (1973) both stand for the

proposition that FAA regulation preempts certain state and local ordinances relating to air carrier operations. However, neither case addresses situations of overlapping federal regulatory authority. Indeed, *City of Burbank* illustrates the collaborative relationship that can exist between EPA and FAA in implementing federal regulations. 411 U.S. at 629-30 (Noise Control Act of 1972).

Therefore, since there is no irreconcilable conflict between EPA authority to regulate the discharge of pollutants and FAA authority to regulate deicer use and there is no indication (and certainly no clear indication) that congress intended the FAA to regulate deicer discharges to surface waters in substitution for the Clean Water Act, requirements promulgated by both agencies should be given effect.

It also appears that the MassDEP is not precluded from co-issuing the deicing portion of this permit by the preemption doctrine. The cases cited by United Airlines do not establish that there is field preemption covering the regulation of discharges to surface waters. In any event, the permit as issued by the MassDEP is identical to the federal permit being issued by the EPA, pursuant to federal authority. If a State is requiring only exactly what is authorized by federal authority, the usual logic that might support preemption does not apply.

Nevertheless, as mentioned previously, EPA has amended the permit to avoid any perceived conflict with FAA regulation or possible threat to safe aircraft operations. First, a provision has been added to the permit to specify that all procedures implemented pursuant to the permit, which includes development of any BMPs for the application of deicer, shall be performed consistently with FAA requirements and considerations of flight safety. Part I.A.14 of the permit now states, "All procedures implemented pursuant to the permit shall be performed consistently with FAA requirements and considerations of flight safety." (Refer also to Response to Comments V.C.1 – V.C.3.)

Second, the previous extensive requirements regarding the BMPP for Identifying and Eliminating Deicing and Anti-Icing Sources have been replaced with a requirement for a SWPPP for Identifying and Eliminating Deicing and Anti-Icing Sources, consistent with language from the MSGP-2000. This change to the permit has reduced the extensive data collection and recording requirements for deicer as described in Response to Comment V.C.4.

Change to permit: See Response to Comment V.C.1 – V.C.3 for addition of language to Part I.A.14 of the permit. See Response to Comment V.D.2 for replacement of Part I.B.7 and replacement of Part I.B.8 of the permit. See Response to Comment V.C.4 for the specific changes from the BMPP for Identifying and Eliminating Deicing and Anti-Icing Sources in the draft permit to the SWPPP for Identifying and Reducing Deicing and Anti-Icing Sources in the final permit.

V.C. Comment related to Alternatives for Deicing Requirements in Draft Permit

<u>V.C.1 Comment from Massport:</u> The DAC requirements unnecessarily interfere with the safe and efficient operation of the Airport.

The field of aviation in general, and activities at airports in particular, are subject to "pervasive regulation and control." *New England Law Foundation* v. *Massachusetts Port Authority,* 883 F.2d. 157, 172 (1st Cir. 1989) (noting that "it would be difficult to visualize a more comprehensive scheme of combined regulation, subsidization, and operational participation than that which Congress has provided in the field of aviation"). As part of this regulatory regime, the FAA carefully regulates the deicing and anti-icing of runways and aircraft. These regulations require extensive procedures to ensure that airports and airlines use adequate amounts of deicing and anti-icing fluids and chemicals ("DAC") to ensure flight safety.

The Draft Permit requires Massport and Co-Permittees to develop standard operating procedures ("SOPs") for the application of DAC and conduct onerous data gathering during deicing events that are inconsistent with FAA requirements.[40] The requirements in the Draft Permit will interfere with Massport's and Co-Permittees' focus on the safe and efficient operation of the Airport for the traveling public and all aviation employees. As the FAA has recently stated, "[w]hile many accidents involve serious injury or death, ground icing-related accidents typically produce catastrophic results." (Massport Ex. 3, Safety Alert for Operators No. 6002, March 29, 2006 at 1). Accordingly, Massport requests that EPA remove these requirements in favor of Massport's comprehensive plan to study and address DAC at the Airport, described in Part C below [Comment V.D.2].

<u>V.C.2 Comment from Massport:</u> The EPA's request for SOPs on DAC application conflicts with the FAA's safety-focused operating procedures for aircraft and runway deicing operations.

As mentioned above, FAA carefully regulates deicing and anti-icing activities by effectively requiring the application of DAC whenever there is any risk of ice formation on runways or aircraft. Aircraft deicing operations are governed by 14 C.F.R. § 121.629, which states that no aircraft may takeoff when frost, ice or snow ("frozen contaminants") are adhering to the wings, control surfaces, propellers, engine inlets, or other critical

40 For example, the Draft Permit goal to "eliminate" DAC reveals a misconception of both FAA regulations and the vital role that deicing and anti-icing plays in aviation safety and the complexity of DAC operations. Massport is not aware of any deicing and anti-icing methods consistent with Massport's safety obligations that would eliminate DAC at the Airport (and this view is echoed by the airlines that perform aircraft deicing at the Airport in their comment letters to EPA). Moreover, the Draft Permit presumes that Massport and the Co-Permittees do not already seek to minimize the amount of DAC applied to aircraft and runways consistent with safety obligations. In fact, due to the high cost of DAC, DAC use volumes are consistently reviewed and assessed in order keep use as low as safety allows. For example, one airline estimates that the average cost of deicing a single airplane is over $4,000, with the majority of the costs attributable to the use of deicing fluids. Similarly, Massport incurs high costs to keep the runways free of ice. Last year, Massport spent nearly $1 million dollars on deicing and anti-icing fluid, with costs ranging between approximately $25,000 to $165,000 per storm event. To minimize these costs, Massport has already upgraded the equipment it uses to remove snow and ice and apply deicing and anti-icing fluid and developed a computerized application system that minimizes DAC use, consistent with Massport's safety obligations.

surfaces of the aircraft. In order to comply with this requirement, the FAA requires airlines and other operators to develop and follow extensive ground deicing programs *(id.* at § 121.629(c). *See also* Massport Ex. 4, FAA Advisory Circular No. 120-6B, Ground Deicing and Anti-Icing Program (December 20,2004)). What follows is a summary of the procedures outlined in the regulations and advisory circular.

When an airport determines that ground deicing procedures are in effect, flight crews and ground personnel adhere to a multi-step deicing application and inspection regime. The process typically begins with an initial application of DAC to the aircraft based on procedures developed for each type of aircraft. As part of the application process, ground personnel must perform "post-deicing/anti-icing checks" that ensure all critical surfaces[41] are free of frozen contaminants after deicing, all critical surfaces are free of frozen contaminants before the application of any anti-icing fluid, and all critical surfaces are free of frozen contaminants before pushback or taxi.

As soon as ground personnel complete the application of deicing/anti-icing fluids, the Holdover Time ("HOT") begins to run. The HOT is the estimated time that deicing/anti-icing fluid will prevent the formation of frost or ice and the accumulation of snow on the critical surfaces of the aircraft. If takeoff will occur during the HOT, the flight crew checks the aircraft's wings and other representative surfaces[42] for frozen contamination prior to taking the runway (the "pretakeoff check"). As part of this process, the flight crew assesses the current weather, the order of DAC application (where on the aircraft the deicing process began) and other situational conditions to ensure that the aircraft is free of frozen contaminants. If the HOT expires before takeoff, the flight crew conducts a more exhaustive check of the aircraft within five minutes of takeoff (the "pretakeoff contamination check"). In either situation, if the flight crew discovers frozen contaminants or otherwise has doubts concerning the aircraft's condition, the aircraft must return for additional deicing and the process is repeated.

Similarly, FAA regulates the deicing and anti-icing of airport runways and taxiways. 14 C.F.R. § 139.313 requires Massport to promptly remove or control, as completely as practical, snow, ice and slush on each movement area. Massport's requirements are further detailed in FAA guidance *documents (see* FAA Advisory Circular AC 150/5200-30A, Airport Winter Safety and Operations; Massport Ex. 5). Massport has already developed a computerized pavement DAC application system based on years of experience that minimizes DAC use within the safety limits required by the FAA. Massport also utilizes a visual display system (the "SCAN system"), which monitors 14 runways and taxiway locations, providing critical data including pavement surface temperature, air temperature, and wet/dry or icing conditions on the pavement surface.

In sum, the FAA regulations and guidelines rely heavily on observation and judgment by professionals in the field - flight crews and ground personnel who are directed to err on

41 These are the surfaces on an aircraft that must be clear of frozen contaminants before takeoff.
42 These are the surfaces aircraft manufacturers have identified as surfaces that the flight crew can readily observe to determine whether frozen contaminants are forming or accumulating on the aircraft's critical surfaces.

the side of flight safety. These professionals should not be placed in an untenable situation where the consideration of other factors, such as minimizing the volume of DAC use, could interfere with their preeminent judgments about flight safety. For this reason, EPA should remove the requirement to develop SOPs for applying DAC to aircraft and runways as incompatible with the FAA's current procedures governing DAC application.

V.C.3 Comment from Delta: ***EPA has Failed to Consider Aviation Safety and Potential Conflicts with FAA Requirements***

The Draft Permit includes several conditions that would require flight crews and ground personnel to balance the amount of DAC used while trying to comply with the safety mandate of the FAA. This balancing act could affect both flight safety and airport efficiency during cold weather months. The FAA requires the use of DAC whenever there is a risk of ice formation on runways or aircraft. 14 C.F.R. § 121.629. To comply with regulatory requirements to deice airplanes and runways, the FAA requires airlines to develop and follow extensive ground deicing programs. These are strict guidelines that are time sensitive. Flight crews and ground personnel are heavily trained in observation and judgment to comply with these guidelines. Several of the Draft Permit requirements would require these personnel to divert attention from compliance with the FAA safety requirements during deicing to considering whether too much DAC is being used. These considerations required by the Draft Permit could have an effect on the flight safety and efficiency considerations required by the FAA. As discussed in greater detail in our specific comments, Delta strongly recommends, based on these considerations, that EPA remove the requirement to develop Standard Operating Procedures to "prevent or minimize" use of DAC because this requirement is in direct conflict with the FAA safety mandates involving use of DAC.

Rather than impose separate and contradictory requirements regarding the use of DAC, Delta recommends that EPA adopt the FAA deicing program guidelines to ensure consistency and safety. As noted above, there is no evidence of a water quality issue related to DAC use at Logan, but if EPA remains concerned about DAC use at the airport, the appropriate means to address the issue is for EPA to address it directly with FAA or through notice and comment rulemaking such as the DAC rulemaking EPA has already initiated.

Response to Comments V.C.1 –V.C.3: EPA agrees with Massport that all procedures implemented should be consistent with FAA requirements and considerations of flight safety. Part I.A.14 of the permit now states, “All procedures implemented pursuant to the permit shall be performed consistently with FAA requirements and considerations of flight safety.”

In addition, Part I.B.7 of the draft permit, BMP Plan for Identifying and Eliminating Deicing and Anti-icing Sources has been replaced with language incorporated from the MSGP-2000 SWPPP for deicers. Part I.B.8 of the draft permit, Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals, has been replaced with a

requirement to supplement the BMPs, if necessary, following completion of the Water Quality Study. Since it was the particular language in the replaced permit provisions that was objected to by the commenters, the use instead of the general permit provisions generally should resolve their concerns. Refer to Response to Comment V.D.2 for the revised language of the permit to replace Parts I.B.7 and I.B.8 of the draft permit.

In adopting the General Permit provisions, however, EPA is not necessarily agreeing with Massport that deicer discharges already are being minimized. Rather, while Massport may be able to demonstrate that sufficient measures to meet the General Permit requirements to control deicer already are in place, it needs to go through the SWPPP process to further examine this matter and document its findings. In particular, it does not make sense to simply assume that because deicer is expensive, usage of deicer already is always minimized and there is no need to examine whether practices could be safely changed. Indeed, one benefit of formal processes such as the SWPPP process is that they sometimes identify poor practices resulting both in better environmental control and cost savings. As pointed out in the comments from the Airports Council International (discussed below), the Council currently is conducting a study "examining methods to reduce deicing/anti-icing fluid usage while maintaining operational safety." If market forces always automatically resulted in the least possible use of deicer consistent with flight safety, then there would be no need for such a study. Moreover, the General Permit provisions require consideration of measures not just to reduce use of deicer but also to reduce the amount of deicer discharged to surface waters, two somewhat distinct issues. Market forces do not result in permittees putting controls into place to reduce the discharges (as opposed to the use) of deicer.

In addition, while the EPA has dropped - from the permit - provisions objected to by the commenters as potentially interfering with a required focus on flight safety (e.g., requirements for recording information every 60 minutes and reporting on a daily basis), EPA does think that it overstates matters to say that having *any* environmental requirements regarding deicer creates a divided focus which interferes with flight safety. A large organization such as Massport and the sophisticated airlines using its facility are fully capable of complying with both FAA requirements and the General Permit provisions.

Finally, in adopting the General Permit provisions, EPA is not agreeing to the suggestion of Delta Airlines that it instead incorporate FAA guidelines regarding deicer usage as NPDES permit requirements. The FAA guidelines are focused on flight safety. It is more appropriate for EPA to employ the General Permit requirements - focused on discharges to surface waters - than for the EPA to duplicate regulation by another Agency.

Changes to the permit: Addition of Part I.A.14 (to replace Part I.A.14 from the draft permit), "All procedures implemented by the permit shall be performed consistently with FAA requirements and considerations of flight safety." See Response to Comment V.D.2 for replacement of Part I.B.7 and Part I.B.8 of the draft permit.

<u>V.C.4 Comment from Massport:</u> The Draft Permit also requires burdensome and duplicative data gathering requirements that will disrupt emergency-driven aircraft and runway deicing operations and divert scarce airport resources.

Airport deicing is a complicated, labor intensive process where time "in minutes" is of the essence. During winter weather events, staff utilization is maximized to the limits to keep the Airport's runways and taxiways open and to maintain safe aircraft and airport operations. Due to the inconsistent and unpredictable nature of weather, Massport and the airlines cannot reasonably be expected to have dedicated deicing staff "on standby." Staff must perform multiple functions. For example, airlines often rely on baggage handlers to assist in deicing aircraft. Any additional non-essential activities will unnecessarily divert attention from required safety-related activities *(i.e.,* effective aircraft deicing). At the same time, interrupting the deicing process to collect and record data will increase the time necessary to perform the task, possibly adding to the risk of ice formation and flight delays.

Diverting airport resources and dedicating them to a non-safety oriented task requires a strong justification. Neither the Draft Permit nor the Fact Sheet, however, provide *any* justification for the extensive data gathering requirements. The data will not significantly enhance the understanding of deicer use or lead to a reduction of DAC use. Moreover, given the large number of variables involved in the deicing process, it is not likely that meaningful conclusions can be drawn from analysis of the data EPA seeks in the Draft Permit. For example, in the case of anti-icing chemicals, the chemicals are often applied as an icing preventative in anticipation of potential frozen precipitation conditions to meet HOT requirements. The anticipated weather conditions, however, do not always materialize. Therefore, conclusions drawn from an analysis of the anti-icer use and actual precipitation data would occasionally be erroneous and misleading.

Massport requests that the Draft Permit be modified to delete the requested data collection program and instead require that Massport develop a plan to collect and report total DAC usage. Massport has proposed alternative and workable DAC data collection requirements as part of its DAC proposal in the following section [Comment V.D.2].

Response to Comment V.C.4: The BMPP for Identifying and Eliminating Deicing and Anti-Icing Sources in the draft permit has been replaced with a SWPPP for Identifying and Reducing Deicing and Anti-Icing Sources, using language incorporated from the MSGP-2000 SWPPP for Air Transportation.

This change to the permit has reduced the extensive data collection and recording requirements for deicer. Specifically, the permit no longer requires Massport and the Co-Permittees to record the amount of deicing chemicals used per day, with an inventory of the amount used for each activity performed, and report the results per day within 48-hours from the end of the day. The permit no longer requires Massport and the Co-Permittees to develop Standard Operating Procedures (SOPs) to prevent or minimize the release of deicing chemicals to the storm water drainage systems. Additionally, the permit no longer requires extensive data collection during runway and aircraft deicing

operations such as measuring and recording temperature, wind speed, rate and type of precipitation, application rate of deicing chemicals used for runway operations, and conditions under which the deicing chemicals are applied (during wet or dry weather). According to the draft permit, the data collected during runway deicing operations was to be recorded every 60 minutes during deicing chemical application. The data collected during aircraft deicing operations was to be recorded immediately after applying deicing chemicals to each aircraft. Finally, the permit no longer specifically requires Massport to review the technical feasibility of consolidating the 44 outfalls associated with the drainage from the runways.

Change to permit: See Response to Comment V.D.2 for the replacement of Section I.B.7 and Section I.B.8 in the permit.

V.D. Comments related to Proposed Alternative Deicer Sampling Method

V.D.1 Comment from Airports Council International: The Airports Council International – North America (ACI-NA) appreciates the opportunity to provide comments on U.S. Environmental Protection Agency's (EPA) July 25, 2006 draft National Pollution Discharge Elimination System (NPDES) Permit and accompanying Fact Sheet from Boston's Logan International Airport (BOS). ACI-NA represents local, regional and state governing bodies that own and operate approximately 160 commercial airports throughout the United States and Canada, including the Massachusetts Port Authority as operator of Boston – Logan International Airport (BOS). ACI-NA member airports serve more than 95 percent of all the U.S. domestic scheduled air passenger and cargo traffic, and virtually all U.S. scheduled international air travel.

ACI-NA members continuously strive to minimize the environmental impact of airports, including the water quality effects of deicing operations, while balancing the importance of operational safety and cost effectiveness. While airport deicing activities have been a long-standing operational requirement at cold weather airports, significant studies and regulatory initiatives underway which will provide EPA with critical data, guidance, and standards to establish informed permitting requirements for BOS and other similarly situated airports. The Transportation Research Board's Airport Cooperative Research Program (ACRP) is funding research into critical aspects of deicing operations, and EPA's own Office of Water is currently developing effluent limitation guidelines for airport deicing operations.

The three ACRP research projects will yield significant practical information that is directly and immediately useful to airport operators and to regulators. The first project (02-01 – *Alternative Aircraft and Airfield Deicing and Anti-Icing Formulations with Reduced Aquatic Toxicity and Biological Oxygen Demand*) aims to develop alternatives to current deicing/anti-icing fluids for both aircraft and airfields with reduced environmental impacts. To be completed in approximately two years, the project research team is determining the components of current fluids that contribute to environmental effects such as biological oxygen demand (BOD) and toxicity and

working to develop fluids that meet performance, safety, and other needs with lessened environmental impact.

Under the second ACRP project (02-02 – *Managing Runoff from Aircraft and Airfield Deicing and Anti-Icing Operations*), researchers are examining methods to reduce deicing/anti-icing fluid usage while maintaining operational safety. This requires an understanding of ice formation on aircraft surfaces to determine the critical timing and quantity of fluid application. Optimizing fluid use through various application technologies, surface treatments, ice and temperature sensors, and other methodologies will be explored over the next year.

The third ACRP project (10-01 – *Optimizing the Use of Aircraft Deicing and Anti-Icing Fluids*) of importance to this draft permit will result in development of best practices for managing stormwater impacted by deicing/anti-icing runoff and planning guidelines for implementing those practices. Through surveys and other data gathering, the research team is collecting information about practices employed at airports throughout the U.S., Canada, and Europe that provide the optimal balance of efficiency, cost effectiveness, and other operational needs while recognizing the unique airport circumstances and considerations under which this balance is met. Project completion is estimated for early 2009.

The ACRP project results will provide information of critical importance to understanding deicing operations at all airports, including BOS.

As I am sure you know, in September 2004, EPA's Office of Water announced their intention to look more closely at airport deicing operations to determine whether effluent limitation guidelines were necessary to control stormwater affected by deicing/anti-icing runoff. This process involves substantial data gathering on deicing/anti-icing operations for both the airfield and aircraft and an understanding of airport and airline economics to determine the financial impact of potential regulatory requirements. Based on the data gathered, EPA will establish the best available technologies economically achievable (BAT) for airport deicing operations. The BAT will then be used to set effluent limitation guidelines, which could take various forms including numeric limits, best management practices, or pollution prevention plans.

Most recently EPA's Office of Water distributed detailed questionnaires to over 150 airports, including BOS, which solicited data on deicing/anti-icing fluid usage on the airfield, deicing-impacted stormwater treatment and collection systems, and airport economics. Additional data related to airlines' deicing activities will be gathered this winter. Site visits, sampling data, literature reviews, and other information sources will also contribute to EPA's effort. Over the next 18 months, EPA expects to examine all collected information and develop proposed regulatory requirements for the airport deicing industry. The requirements are expected to be final in the fall 2009.

The data collected to date by EPA underscores the uniqueness of the airport industry. Each airport operates under a number of parameters that directly feed into the best

solution for their individual needs to address water quality. Climate, operational levels, available land area, characteristics of receiving waters, and financial limitations are just a sampling of the parameters airports must take into account when considering the appropriate deicing system for their airport. These substantial variables are reflected in the fact that airports across the country employ very differing solutions for their unique situation.

As previously mentioned, the cost associated with any solution is a critical factor for every airport. Because both capital and operation/maintenance costs for any deicing system are substantial, reaching into tens of millions of dollars, it is important for an airport to have as much information as possible to ensure it invests in a solution that will achieve the desired results of maximum water quality benefits at minimal costs while meeting the latest regulatory requirements.

With these important research results and regulatory requirements forthcoming, it would be prudent for EPA to allow Massport to benefit from that information before embarking on significant and costly additional deicer controls at Logan. We urge you to defer the requirements to implement deicer controls in the draft NPDES permit for BOS until such time as the results of the cited research are available to property inform your and Massport's decisions. If you decide to not defer issuance of the permit, we request that the permit language be amended to incorporate time for Massport to perform the necessary studies aimed at better understanding stormwater discharges and impacts at BOS.

Response to Comment V.D.1: Again, the EPA has been persuaded that it makes sense to hold off on requiring measures relating to deicing which go beyond the already established requirements of the EPA's General Permits. See Response to Comments V.B.4 to V.B.7. Thus the draft permit provisions regarding the BMPP and PPP for deicer have been replaced with language incorporated from the MSGP-2000. As explained above in Response to Comments V.B.4 to V.B.7, this was done in order to allow time for a site specific Water Quality Study. As also explained above, in Response to Comments V.B.8 to V.B.11, this also was done to avoid imposing additional technology-based requirements which could vary from the ultimately adopted ELGs. Deferring requiring more than the General Permit requirements also avoids imposing *additional* technology-based requirements before the studies cited by the commenter are completed.

However, just as the Water Quality Study is not a reason for now doing nothing regarding deicing, and the ongoing development of ELGs is not a reason for now doing nothing regarding deicing, the ongoing studies cited by the commenter are not a reason for now doing nothing regarding deicing. The SWPPP-BMPs process is designed to be an iterative one, and it is appropriate to require the permittees to meet the minimum requirements stated in the General Permit now, understanding that their plans will be subject to updating once the ongoing studies are completed, and thus will be able to take advantage of the results of the studies.

Change to permit: See Response to Comment V.D.2 for the replacement of Section I.B.7 and Section I.B.8 in the permit as well as for inclusion of the Water Quality Study.

V.D.2 Comment from Massport on Alternative Proposal to Address Deicing at the Airport: The Draft Permit reveals a dearth of relevant data regarding DAC use and its impacts at the Airport. Addressing these data deficiencies is essential to developing a comprehensive and effective DAC plan. Massport proposes a two-phased approach that focuses initially on gaining a better understanding of potential water quality impacts of DAC discharges through monitoring and modeling while adopting initial measures to monitor DAC use and reduce certain discharges. Massport will then utilize this information, in conjunction with the ELG and the work being developed by ACRP, to develop a pollution prevention plan with BMP measures that is reasonable, efficient and protective of the waters around the Airport.

Many airports across the country have taken this principled approach of first analyzing the issue through modeling and then developing appropriate measures. The recent draft SPDES permits for JFK Airport, one of the more comparable airports in the United States in terms of deicing activities and storm water discharge, requires a study of potential DAC impacts before requiring DAC controls. (Massport Ex. 6 at 10). The JFK permit also notes that the deicing season coincides with the time where DO levels in the marine receiving waters are typically at their peak which offsets the effects of glycol discharges. *(id.).*[43](

PHASE 1: Comprehensive Receiving Water Analysis and Potential Storm Water Discharge Risk Assessment (Time frame: 24 months from effective date of permit)

Comprehensive Receiving Water Analysis. To date, no site-specific data are known to exist indicating that storm water discharges from Logan are causing adverse impacts to aquatic life or the environment. Therefore, Massport and the Co-Permittees need to further understand the potential impacts on receiving waters associated with potential DAC storm water discharges before making significant investments in infrastructure and equipment.

Due to the highly variable nature of winter precipitation conditions and aircraft operations during winter weather, it is unlikely that any monitoring program will capture the full range of discharge conditions. To better understand the range of conditions, Massport proposes to develop a deicer application and distribution model, to be integrated with a storm water model, to simulate the range of deicer loadings that are likely to occur in the North Outfall and West Outfall (the only two outfalls that service

43 The approach is also consistent with Massport's comprehensive approach to addressing bacteria. Although there are no known bacteria impacts from storm water discharges at the Airport, Massport has undertaken a $700,000 study to examine and address sources of bacteria in Massport's storm water system. Massport has already conducted a thorough investigation of the first of five drainage areas and will complete the second drainage area, North, by December 2006.

the terminal and cargo areas). Massport proposes this in lieu of an extensive sampling program at the airport outfalls. Experience at other airports has demonstrated that end-of-pipe sampling conducted over a limited period of time is not a satisfactory means of quantifying the deicer discharges from an airport. The range of weather conditions and the corresponding range of deicer application amounts and deicer discharge quantities is simply too great to be captured by limited sampling events. Because of these concerns, EPA has approved the use of models as the basis of storm water control programs at other airports. For example, several Ohio airports have model-based control requirements developed from 10-year recurrence intervals for deicing seasons.

Interim Control Measures and BMPs. Massport and its Co-Permittees have implemented a storm water pollution prevention plan and are consistently seeking means and methods to reduce the potential impact of its industrial activities on the environment. To that end, the Co-Permittees will continue to investigate and consider DAC use practices in an effort to reduce the amount of DAC that is applied, while operating in a safe and efficient manner.

PHASE II: Update Pollution Prevention Plan (PPP) and Development of DAC BMPs (Time frame: PPP within 24 months of completing Phase I with Implementation defined in PPP)

Once Massport has an appropriate baseline for evaluating DAC storm water discharges and their potential impacts on receiving waters, Massport will evaluate reasonable measures to address any DAC-based impacts. Massport will update the existing pollution prevention plan and develop BMPs to reduce Massport's potential impact on receiving water quality around the Airport. The time frame to be defined within the study will allow Massport to consider the measures recommended through the ACRP and adopt those measures required by the ELG.

Massport's Requested Permit Language. To incorporate this proposal into the permit, Massport requests that §§ I.B.7 and I.B.8 be removed from the Draft Permit as written and replaced with the following §§ I.B.7 through I.B.9.

Receiving Waters Analyses

Massport and Co-Permittees may conduct biological, chemical and toxicological analyses of receiving waters and potential storm water discharges as part of a report or reports submitted to EPA to support the understanding of the potential effects of Logan's DAC storm water discharges on the receiving waters. Such report or reports shall include analyses of the use attainment and use attainability for the receiving waters and shall describe aquatic life and water supply uses that can reasonably be maintained in the receiving waters. The analyses shall include the development of necessary metrics to support the appropriate use that can reasonably be attained for each receiving water body, along with a proposed compliance schedule, if necessary, to achieve the required metrics. The report or reports shall take into account the seasonal nature of DAC use activities and

storm water flows, including the effects of snow melt. Any report or reports prepared under this provision shall be completed within 24 months of the effective date of this permit and submitted to EPA for review and approval.[44]

Massport and Co-Permittees shall submit a plan of study for the modeling and/or biological survey to EPA for comments and approval at least three months prior to the date the modeling or biological survey is to begin. Massport and Co-Permittees agree to use EPA policies, procedures and protocols, as applicable, with respect to any modeling or biological survey conducted as part of these analyses.

Interim Control Measures and BMPs.

Massport and its Co-Permittees shall continue to investigate and consider DAC use practices in an effort to reduce the amount of DAC that is applied, while operating in a safe and efficient manner. Massport and the Co-Permittees shall consider the following BMPs to reduce DAC use:

Tracking and reporting DAC use on a monthly basis.

Properly and regularly maintaining DAC application equipment so that they are operated at peak performance.

Minimizing the number of aircraft potentially exposed to adverse weather conditions by using weather forecasts and diversions as needed.

Maximizing the use of available hangar space to minimize number of aircraft exposed to precipitation.

The use of minimum safe mixtures as dictated by the tenants approved deicing manual.

Effective communication with Massport Snow Desk to anticipate field closings and minimize redundant applications.

Ensuring that all equipment is used at full-recommended heat - "Hot Tank" deicers backed up with preheated spares.

The use of adequate equipment numbers to avoid long duration deicing on a single A C *that can result in the need to recover ground that has already been cleared.*

44 40 C.F.R. § 122.47 provides EPA with the authority to specify a compliance schedule where appropriate. As noted in EPA's Permit Writers' Manual, the development and/or implementation BMPs is an appropriate situation for creating a longer-term compliance schedule.

Minimization of fluid use by keeping fuselage interiors at a high temperature.

Conduct analyses of alternative pavement deicing chemical options.

The Co-Permittees will continue to implement these measures, as appropriate, and Massport will encourage and work with the Co-Permittees in the development of BMPs to formalize their DAC reduction activities. Massport will promote training of Co-Permittees on these source reduction opportunities and incorporate the results in the storm water pollution prevention plan training programs. Massport will also work with Co-Permittees to investigate and incorporate, as appropriate, other DAC source reduction strategies that may become available in the future.

Update Pollution Prevention Plan (PPP) and Development DAC BMPs (Time frame: PPP within 24 months of completing Item 7 [Receiving Waters Analysis, above] ***with Implementation defined within PPP)***

Massport and Co-permittees will update the existing PPP and develop BMPs to reduce Massport's potential impact on receiving water quality around the Airport based on the results of Item 7 [Receiving Waters Analysis, above]. *The time frame shall be defined within the PPP.*

Response to Comment V.D.2: EPA agrees with Massport that a Water Quality Study (or Comprehensive Receiving Water Analysis and Potential Storm Water Discharge Risk Assessment), as discussed above in the Massport comments as Phase I, is important in order to better understand the storm water discharges and impacts at Logan. Additionally, EPA has decided to hold off on requiring measures related to DAC which go beyond the already established requirements of the EPA's General Permits. Thus, EPA has decided to incorporate a Water Quality Study into the final permit at Part I.D. The permit provisions regarding BMPP and PPP for deicer have been replaced with language incorporated from the MSGP-2000 and a requirement for re-evaluation of BMPs following completion of the Water Quality Study. Additionally, as stated in Part I.A.19 of the permit, EPA or MassDEP may use the results to develop numerical effluent limitations, if necessary. The reduced requirements for the SWPPP for deicer will allow time for completion of a site specific Water Quality Study, prior to imposing additional requirements, as explained in Response to Comment V.B.4 to V.B.7.

Although the permit for JFK airport does not require interim requirements, Region I has decided to require the conditions of the MSGP-2000 as interim requirements during completion of the Water Quality Study. The permittees should not be excused from having to comply with the long standing requirements set forth in the General Permit and already determined to be necessary to meet the BAT and BCT standards. The EPA also notes that the development of BMPs is an iterative process. The appropriate BMPs may change over time, in response to a variety of factors, including the completion of the

Water Quality Study. This is natural and expected, not a justification for doing nothing just because of a possibility of future change

The monitoring requirements in the draft permit remain in the final permit, with the exception of reductions in monitoring frequency as described in Response to Comment V.B.12. EPA believes this monitoring is necessary in order to obtain critical information which will assist in judging water quality impacts. The monitoring, done in conjunction with the Water Quality Study, should together yield solid information about water quality impacts.

Additionally, the recommended interim BMPs suggested by Massport in Comment V.D.2 have not specifically been added to the permit. EPA believes it is more appropriate to require the same SWPPP related to deicing from the MSGP-2000, as described above. Although the suggested additional BMPs from Massport may well constitute appropriate BMPs, these BMPs should be developed under the SWPPP required in the permit.

The BMP for Identifying and Eliminating Deicing and Anti-icing Sources in the draft permit will be replaced with the following requirements regarding the SWPPP and BMPs (consistent with deicer requirements in the MSGP-2000 SWPPP for Air Transportation):

> I.B.7. SWPPP for Identifying and Reducing Deicing and Anti-icing Sources
>
> Massport and Co-Permittees that store, handle or apply deicing and/or anti-icing compounds[45] at Logan International Airport shall develop a Storm Water Pollution Prevention Plan for Deicing and Anti-icing Chemicals (DAC). The Plan shall include the following information:
>
> a. Potential Pollution Sources - Each permittee/Co-Permittee must maintain a record of the types of deicing chemicals (including the Material Safety Data Sheets [MSDS]) used and the monthly quantities, either as measured or, in the absence of metering, as estimated to the best of their knowledge. This includes all deicing chemicals, not just glycols and urea, because large quantities of these other chemicals can still have an adverse impact on receiving waters. Co-Permittees that conduct deicing operations must provide a copy of the above information to the airport authority (Massport) for inclusion in any comprehensive airport SWPPPs.[46]
>
> b. Source Reduction - Consider alternatives to the use of urea and glycol-based deicing chemicals to reduce the aggregate amount of deicing chemicals used and/or lessen the environmental impact. Chemical options to replace ethylene

45 "Deicing" will generally be used to imply both deicing (removing frost, snow or ice) and anti-icing (preventing accumulation of frost, snow or ice) activities, unless specific mention is made regarding anti-icing and/or deicing activities.

46 MSGP 2000, Part 6.S.5.2

glycol, propylene glycol and urea include: potassium acetate; magnesium acetate; calcium acetate; anhydrous sodium acetate.[47]

c. Runway Deicing - Operations: Evaluate, at a minimum, whether over-application of deicing chemicals occurs by analyzing application rates and adjusting as necessary, consistent with considerations of flight safety. Also, consider these BMP options (or their equivalents): metered application of chemicals; pre-wetting dry chemical constituents prior to application; installing a runway ice detection system; implementing anti-icing operations as a preventative measure against ice buildup.[48]

d. Aircraft Deicing - Operations: Determine whether excessive application of deicing chemicals occurs and adjust as necessary, consistent with flight safety. EPA intends for this evaluation to be carried out by the personnel most familiar with the particular aircraft and flight operations in question (vice an outside entity such as the airport authority). Consider using alternative deicing/anti-icing agents as well as containment measures for all applied chemicals. Also consider these BMP options (or their equivalents) for reducing deicing fluid use: forced-air deicing systems, computer controlled fixed-gantry systems, infrared technology, hot water, varying glycol content to air temperature, enclosed-basket deicing trucks, mechanical methods, solar radiation, hangar storage, aircraft covers, thermal blankets for MD 80s and DC 9s. Also consider using ice-detection systems and airport traffic flow strategies and departure slot allocation systems.[49]

e. Management of Runoff - Where deicing operations occur, describe and implement a program to control or manage contaminated runoff to reduce the amount of pollutants being discharged from the site. Consider these BMP options (or their equivalents): a dedicated deicing facility with a runoff collection/recovery system; using vacuum/collection trucks; storing contaminated storm water/deicing fluids in tanks and releasing controlled amounts to a publicly owned treatment works; collecting contaminated runoff in a wet pond for biochemical decomposition (be aware of attracting wildlife that may prove hazardous to flight operations); and directing runoff into vegetative swales or other infiltration measures. Also consider recovering deicing materials when these materials are applied during non-precipitation events (e.g. covering storm sewer inlets, using booms, installing absorptive interceptors in the drains, etc.) to prevent these materials from later becoming a source of storm water contamination. Used deicing fluid should be recycled whenever possible.[50]

f. Inspections - Specify the frequency of inspections in the SWPPP. At a minimum conduct inspections monthly during the deicing season (e.g., October

47 MSGP 2000, Part 6.S.5.3.6
48 MSGP 2000, Part 6.S.5.3.6.1
49 MSGP 2000, Part 6.S.5.3.6.2

50 MSGP 2000, Part 6.S.5.3.7

through April for most mid-latitude airports). If deicing is necessary before or after this period, expand the monthly inspections to include all months during which deicing chemicals may be used. Also, if significantly or deleteriously large quantities of deicing chemicals are being spilled or discharged, or if water quality impacts have been reported, increase the frequency of inspections to weekly until such time as the chemical spills/discharges or impacts are reduced to acceptable levels. The Director may specifically require increased inspections and SWPPP reevaluations as necessary.[51]

g. Comprehensive Site Compliance Evaluation - Using only qualified personnel, conduct annual site compliance evaluations during periods of actual deicing operations, if possible. If not practicable during deicing or the weather is too inclement, conduct the evaluations when deicing operations are likely to occur and the materials and equipment for deicing are in place.[52]

Additionally, a Water Quality Study has been added to the permit at Part I.D, comparable to that suggested by Massport in Phase 1 of the above comment. Some changes were made to Massport's requested permit language, while other language was incorporated from Massport's suggested Comprehensive Receiving Water Analysis and Potential Storm Water Discharge Risk Assessment in the above comment. As suggested by Massport, the Water Quality Study shall include a deicer application and distribution model [deicer application, fate, and transport model] to simulate the range of deicer loadings that are likely to occur to occur at the Airport. See the Water Quality Study, below, for the specific requirements which have been added to the permit at Part I.D, in response to this comment. Massport shall include an analysis of quantities of deicer used and the concentration of deicer chemicals in direct and indirect surface water discharges (as described in Response to Comment V.A.4 and V.A.1) real-time monitoring of deicer (as described in Response to Comment IV.A.2 – IV.A.3), and calculation of dilution factors (as described in Response to Comment V.B.2).

Massport shall submit a plan and schedule for the Water Quality Study to EPA and MassDEP for review and comment within 6 months of the effective date of this permit. Also, Massport shall submit a Water Quality Study Report to EPA and MassDEP for review and comment within 24 months of the effective date of this permit. The requirement for submission of the study plan, schedule, and report are justified in 40 C.F.R. §122.47, which provides EPA with the authority to specify a compliance schedule where appropriate.

EPA did not explicitly include in the permit the specific interim control measures and BMPs suggested by Massport. However, the permit, as discussed above regarding the SWPPP, will require Massport to develop BMPs required to be followed during the Water Quality Study and re-evaluated after completion of the study to determine if implementation of supplemental BMPs is necessary to protect the water quality of the

51 MSGP 2000, Part 6.S.5.4
52 MSGP 2000, Part 6.S.5.5

receiving waters. This provision has been added as Part I.B.8 of the permit as follows (refer to Response to Comment V.B.8 – V.B.11 concerning addition to Part I.B.8.b):

I.B.8. Re-evaluation of BMPs

a. The SWPPP for deicing shall be re-evaluated after completion of the Water Quality Study described in Part I.D, below, to determine if supplemental BMPs are necessary in order to protect the water quality of the receiving waters. EPA shall be notified of any additions to the SWPPP or any decision not to make additions. The time frame for re-evaluation shall be defined within the SWPPP.

b. Upon finalization of any Airport Deicing Effluent Limitation Guidelines (ELGs), the permittee and Co-Permittees shall supplement the BMPs developed pursuant to the SWPPP, as necessary, to be consistent with the newly issued ELGs.

The Water Quality Study shall require the following (See Response to Comment V.A.1 and Response to Comment V.A.4 for the reasoning for Part I.D.1, Response to Comment IV.A.1 and IV.A.2 – IV.A.3 for the reasoning for Part I.D.2, and Response to Comment V.B.2 for reasoning for Part I.D.3):

D. WATER QUALITY STUDY

1. Receiving Waters Analysis and Water Quality Study Report

Massport shall conduct a Water Quality Study consisting of a biological, chemical, and toxicological analysis of Logan Airport's storm water discharges and the resultant receiving water quality in order to characterize the impacts of deicer contained in storm water discharges. The Water Quality Study shall include an analysis of quantities of deicer used and the concentration of deicer chemicals in direct and indirect surface water discharges. In performing this Water Quality Study, Massport shall develop, calibrate, verify, and use a deicer application, fate, and transport model, to predict the location and duration of ambient receiving water deicer chemical concentrations based on deicer use, results of outfall sampling, tidal conditions, and the range of deicer loadings that are likely to occur at Logan Airport. The Water Quality Study shall predict ambient surface water concentrations of deicer chemicals and dissolved oxygen in the receiving waters based on measured outfall concentrations of deicer and the use of the verified application, fate, and transport model. Massport shall also assess the ability of the receiving waters to meet their designated use(s), including an assessment of impacts to aquatic life and fishing, shellfishing, and recreation. The analysis shall take into account the seasonal nature of deicer use activities and storm water flows, including the effects of snow melt. Massport shall submit a plan and schedule for the Water Quality Study to EPA and MassDEP for

review and comment within 6 months of the effective date of this permit. Massport shall prepare a Water Quality Study Report presenting the data collected, methodologies, procedures and results of the Water Quality Study and submit the Water Quality Study Report to EPA and MassDEP for review and comment within 24 months of the effective date of this permit. The Water Quality Study Report shall include contour maps and cross-sections depicting the location and duration of ambient surface water concentrations of deicer compounds and dissolved oxygen based on various tidal, storm, and deicer application scenarios. Procedures, assumptions, and protocols used in the Water Quality Study shall be consistent with those of EPA and/or MassDEP, if applicable.

2. Real-time Monitoring of Deicer

To supplement the Water Quality Study, Massport shall conduct real-time (continuous) monitoring of the outfalls, during a deicing episode, with expected contamination of deicers (Outfall 001, 002, 003, and 006) for parameters including temperature, DO, and conductivity, to be representative of a storm event discharge from each outfall. Massport shall conduct and submit the monitoring results to EPA and MassDEP within a time frame established in Massport's plan and shall report and assess the results in the Water Quality Study Report.

3. Dilution Factor

To supplement the Water Quality Study, Massport shall calculate a dilution factor for each outfall, for potential use by EPA and MassDEP in order to establish water quality based limits in the future, if necessary. Massport shall calculate and submit the calculated dilution factors to EPA and MassDEP within a time frame established in Massport's plan and shall report and assess the results in the Water Quality Study Report.

Changes to permit: Massport shall perform a Water Quality Study (or Comprehensive Receiving Water Analysis and Potential Storm Water Discharge Risk Assessment) as defined above and inserted at Part I.D. of the permit. Also, the BMP for deicer shall be replaced with language consistent with the SWPPP for Air Transportation from the MSGP at Part I.B.7 of the permit. The PPP for deicer shall be replaced by Re-evaluation of BMP at Part I.B.8 of the permit. See Response to Comment V.B.8 – V.B.11 for addition to Part I.B.8.b of the permit.

V.E. Comments related to Deicer Reporting Requirements

V.E.1 Comment from Massport on I.A.3 Deicing Episodes (Pgs. 7-8): Massport requests the deletion of deicing episode monitoring requirements for Outfall 004 (Maverick Street Outfall), including ethylene glycol, propylene glycol, COD, BODs, Total Ammonia Nitrogen, Nonylphenol, Tolytriazoles, and WET. No deicing activities using glycol or similar products occur in the drainage areas for Outfall 004.

V.E.2. Comment from Delta: Because there are no deicing activities that occur in the drainage areas for Outfalls 003 and 004, Delta requests that EPA delete these Outfalls from the deicing episode monitoring requirements in Section I.A.3.

V.E.3. Comment from Continental Airlines: We request that Deicing Episode monitoring be required only at those outfalls that receive run-off from deicing activities.

Response to Comments V.E.1 – V.E.3: The US Airways hangar is located within the drainage area of the Porter Street Outfall (Outfall 003). Additionally, glycol storage by Massport and glycol transport by trucks occur within the Porter Street drainage area. Therefore, the requirement for monitoring of parameters relating to deicing activities at Outfall 003B shall remain in the permit.

EPA agrees that no deicing activities occur in the drainage area for Outfall 004 (Maverick Street Outfall). The drainage area for this outfall includes automotive rental agencies and vehicle access roads. The main activities that occur on airport property in this drainage area are light vehicle maintenance and washing. Therefore, the requirement to monitor this discharge for parameters related to deicing has been removed from the permit. Therefore, Outfall 004B has been removed from the table at Part I.A.3 of the permit, from Footnote 10, and from the table on page 2 of the permit for deicing episodes. The first sentence of Footnote 10 of the permit, "Massport shall gather a grab sample at each major outfall (001, 002, 003, and 004)…" has been replaced with "Massport shall gather a grab sample at outfalls 001B, 002B, and 003B…"

The requirement to monitor for parameters associated with deicing at Outfalls 001, 002, 003, and 15% of the Runway/Perimeter Outfalls is based on the deicing activities that occur within the drainage areas. The Technical Support Document for Water Quality-based Toxics Control (TSD) indicates that EPA is permitted to require monitoring of specific pollutants in the permit if there is a lack of available data on the pollutants in the discharge. See Response to Comments V.E.11-V.E.13. The permit requirement for monitoring of the parameters associated with deicing is valid in order to gain further evidence to determine whether the discharge causes, has the reasonable potential to cause, or contributes to an excursion above a numeric or narrative water quality criterion.

Changes to permit: Outfall 004B has been removed from the table at Part I.A.3 of the permit, from Footnote 10, and from the table on page 2 of the permit for deicing episodes.

V.E.4. Comment from Massport on § I.A.3 Deicing Episodes (Pgs. 7-8): Massport recommends eliminating BOD_5 from the list of monitoring parameters in the permit. Sampling for COD, BOD and both glycols is redundant for deicing. The BOD_5 test has well documented shortcomings, especially where the BOD_5 concentrations can potentially have a wide range. Unknown and/or high oxygen demands in the samples often result in improper BOD_5 test dilutions and the high dilution rates required at high concentrations result in propagation of the already large inherent errors in the BOD_5 test.

COD, on the other hand, is not based on a biological test and is less prone to dilution-related errors.

V.E.5. Comment from Delta: Because sampling for COD, BOD, Ethylene Glycol and Propylene Glycol are redundant for deicing, Delta requests that, at a minimum, BOD be removed from the sampling requirements. According to the Fact Sheet, EPA considers the potential reductions in dissolved oxygen levels to be the principal water quality concern relative to glycols. The four requested parameters (ethylene glycol, propylene glycol, COD and BOD_5) all provide, or can be used to provide, a measure of the potential oxygen demand in the discharges. Therefore, Delta recommends that EPA eliminate one or more of these sampling parameters. BOD_5 is a monitoring parameter frequently imposed by regulatory agents for airports as it is the historical standard measure of oxygen demand used for wastewater discharges. However, the BOD_5 test has well documented shortcomings, especially where the BOD_5 concentrations can have a wide range. Unknown and/or high oxygen demands in the samples often result in improper BOD5 test dilutions and the high dilution rates required at high concentrations result in an exacerbation of the already predominant errors in the BOD_5 test. For example, if a single incorrect BOD5 value is factored into a small number of samples (as would be the case with 2 samples per year per outfall), it can substantially skew the average BOD_5 results. This could lead to erroneous conclusions regarding potential loading, potential water quality effects, and the degree of BMP controls that may be needed. COD, however, is not based on a biological test and is less prone to dilution-related errors. Several airports have shown that COD, as well as glycol concentrations, correlate well with BOD_5 in airport stormwater discharge but do not have the shortcomings that are inherent in BOD as described above. Since the glycol concentration measurements are the major contributing component to the BOD_5 and the glycol tests are generally more reliable than the BOD_5 tests, relying on the two glycol tests is sufficient and more representative. At a minimum, EPA should eliminate the BOD_5 test as it is redundant of the other three tests.

Response to Comments V.E.4 – V.E.5: BOD_5, a conventional pollutant, is the quantity of oxygen used in the aerobic stabilization of wastewater streams and is the most widely used measure of general organic pollution in wastewater. EPA Method 405.1 is used to measure BOD_5. This analytical determination involves measuring dissolved oxygen used by microorganisms to biodegrade organic matter, and varies with the amount of biodegradable matter that can be assimilated by biological organisms under aerobic conditions. The nature of specific chemicals discharged into wastewater affects the BOD_5 due to the differences in susceptibility of different molecular structures to microbiological degradation. Compounds with lower susceptibility to decomposition by microorganisms or that are toxic to microorganisms tend to exhibit lower BOD_5 values than compounds that biodegrade readily. Consequently, although BOD_5 is not a good indicator for the presence of specific toxic organic pollutants, it can provide a gross indication of the presence of organic pollutants. (See http://www.epa.gov/waterscience/guide/pharm/techdev/ch5.pdf).

COD, a nonconventional pollutant, is generally used with BOD_5 as a ratio to determine

the amount of pollutants in the wastewater. COD is a measure of organic material in wastewater that can be oxidized as determined by subjecting the waste to a powerful chemical oxidizing agent (such as potassium dichromate or potassium permanganate) in an acidic medium. COD can be analyzed by EPA Methods 410.1 and 410.2. The COD test can show the presence of organic materials that are not readily susceptible to attack by biological microorganisms. As a result of this difference, COD values are almost invariably higher than BOD_5 values for the same sample.

The COD test cannot be substituted directly for the BOD_5 test because the COD/ BOD_5 ratio is extremely variable and is dependent on the specific chemical constituents in the wastewater. In addition, the COD test measures refractory organics, which the BOD_5 test does not. When there is a long-term BOD:COD coorelation for wastewater from a single manufacturing facility with a constant product mix or from a single manufacturing process, the requirement to sample for COD may be substituted for BOD (see 40 C.F.R. § 133.104(b)). However, this coorelation is applicable only to the wastewater from which it was derived and cannot be used to estimate the BOD_5 of another facility's wastewater. (See http://www.epa.gov/waterscience/guide/pharm/techdev/ch5.pdf).

Therefore, since BOD_5 and COD tests use two different methods of oxidation, correlation between the two tests may or may not exist, depending on sample composition, seasonal variation, and other factors. BOD_5 uses microorganisms which are susceptible to pH, temperature, and other variables in the water. COD uses chemicals which will oxidize regardless of the water conditions. BOD_5 more accurately depicts real world impact on receiving water; however, COD is a more stable measurement method. Therefore, both tests are required in the permit in order to effectively characterize the discharge from Logan. The resulting data may be used in the future to determine a long term BOD:COD coorelation, as described above.

As EPA stated in the Fact Sheet, the biodegradation of propylene glycol and ethylene glycol in surface waters can greatly affect water quality, including a significant reduction in DO levels. The glycol monitoring required in accordance with the permit will provide measurements of glycol levels which will correspond to measurements of oxygen levels obtained from the BOD_5 and COD tests. Upon examining this data, EPA should be able to determine the relationship between the concentration of glycols and the measured oxygen demand of the discharges. Therefore, the requirement to monitor for glycols has been retained in the permit as well.

Change to permit: none

V.E.6. Comment from Massport on § I.A.3 Deicing Episodes (Pgs. 7-8): Massport requests that WET testing be deleted as a means of evaluating potential toxic effects on the receiving waters. The potential for poor correlations between WET test results and actual receiving water quality impacts has been well-documented due to the dissimilar nature of the laboratory tests compared to the receiving waters. This is especially true for the marine receiving waters around the Airport, considering the tidal and salinity affects of Boston Harbor. The regulatory justification for WET testing has been analyzed

extensively, particularly in light of the Great Lakes Initiative, a series of water bodies far different (and which justify greater controls) than Boston Harbor.

In general, WET testing requirements are appropriate only in NPDES permits where there is a "reasonable potential" to exceed a numeric whole effluent toxicity water quality criterion, or a narrative water quality criterion that cannot be adequately addressed by a chemical-specific limit. "Reasonable potential" is determined using four basic factors listed in 40 C.F.R. § l22.44(d)(1)(ii), and expanded upon in the Technical Support Document for Water Quality-Based Toxics Control ("TSD"). First, "reasonable potential" should be assessed in light of existing controls on point and nonpoint sources of pollution *(i.e.,* Best Management Practices, control equipment, etc.). Second, the permit writer must examine the compliance history and any relevant existing chemical data, to determine the variability of the pollutant or pollutant parameter in the effluent. Third, the permit writer must analyze the appropriateness of WET limits based on the sensitivity of the test species to toxicity testing. Last, and especially relevant to wet weather discharges, a permit writer should analyze the "reasonable potential" to exceed with respect to the dilution of the effluent into the receiving water.

Making a reasonable potential determination based on a process wastewater discharge is a challenging regulatory exercise. WET testing requirements in stormwater permits are rare, particularly in a case like the Draft Permit where there are no demonstrated issues or need to apply water quality-based limitations. But the above factors still apply regardless of discharge type, recognizing that wet weather discharges have very different characteristics that make assessing those factors likely to lead to a different outcome. To that end, the TSD is not appropriate guidance, because it focuses on dry weather discharges. It discusses dilution in terms of critical flow conditions, and makes many other assumptions concerning duration, magnitude and frequency that do no apply to wet weather events and discharges.

In fact, EPA recognized that the typical implementation procedures established for dry weather will not work for wet weather in the regulations establishing water quality standards and implementation procedures for the Great Lakes System, 40 C.F.R. Part 132 ("GLI"). The GLI contains an exclusion for wet weather discharges:

> The Great Lakes States and Tribes are not required to apply these implementation procedures in establishing controls on the discharge of any pollutant by a wet weather point source.

40 CFR 132.4(e)(1). In the preamble to the proposed rule, EPA provided that states have discretion to determine whether to apply the GLI implementation procedures to wet weather discharges due to the significant differences between wet weather and dry weather discharges. 58 Fed. Reg. 20802, 20841 (April 16, 1993). In addition, EPA stated that it has not developed a generic set of implementation procedures for uniform application to wet weather discharges due to the high degree of variability associated with wet weather conditions. *Id.* Rather, in these situations EPA favors the use of BPJ by permit writers that are familiar with local wet weather conditions. *Id.*

The wet weather exclusion was discussed in a Supplemental Information Document ("SID") as part of the response to comments on the proposed GLI. In the SID, EPA explained that the wet weather exclusion was proposed and retained in the final GLI because the GLI implementation procedures "do not address the significant differences that can exist between wet-weather point source discharges and dry-weather point sources discharges."[53] In addition, EPA stated that significant differences in rates, durations, and composition of the resulting wet weather flows can exist during and immediately following wet weather events. *Id.*[54]

The magnitude, duration, and frequency of exceedances that are used to develop the numeric interpretation of the narrative whole effluent toxicity criteria are not applicable to storm water discharges, given their intermittent nature and subsequent effluent variability.[55] Acute and chronic WET tests and their endpoints are not relevant to episodic storm events. Storms are highly variable in time and space. The intensity of a storm, particularly combined with the runoff area and amount of pervious and impervious area, will impact greatly the storm water discharge quality. Because the storm, runoff, and constituent composition contained in the runoff all vary in space and time, it is difficult to determine the number of samples and type of samples (grab versus composite) needed to have statistical confidence that an effluent database is valid and representative.[56] Given the ramifications of determining whether a whole effluent toxicity limit is required for a storm water dominated discharge, confidence in the procedures to account for the variability of a constituent in the discharge is required.

Reliance on the TSD procedures to justify a reasonable potential conclusion with regard to storm water certainly would be misplaced. For example, the procedures set forth in the TSD should not be used to account for the variability of the constituent concentrations *(i.e.,* projected effluent quality) in the storm water-dominated outfalls. The TSD procedures are based on underlying statistical assumptions about an effluent, including the following:

> The discharge is not intermittent.
>
> The discharge quality (effluent concentration database) either is normally or log-normally distributed.
>
> The effluent data must be independent and uncorrelated. That is, the effluent concentrations are not effected [sic] by factors that influence all concentrations.

A storm water-dominated discharge (and concurrent effluent database) does not meet these assumptions. A storm water discharge is intermittent; it is doubtful that an effluent

---

53 SID at page 60.
54 *Id.*
55 *See* Preamble U.S. EPA's Proposed Rule on Water Quality Standards for the Great Lakes System, 58 Fed. Reg. 20840-42 (Apr. 16, 1993).
56 Statistical confidence includes the ability to conduct outlier analysis.

database is normally or log-normally distributed, and most assuredly, the effluent data are not independent and uncorrelated with other factors. For all of the reasons stated here, the imposition of numeric effluent limits on stormwater discharges, without proper application of procedures that consider their special nature, is inappropriate.
If, in the alternative, EPA decides to incorporate WET testing into the final permit despite the documented uncertainties of the test in these circumstances, Massport requests that EPA include the following in the permit:

> Given EPA's statement in Section VIII of the Fact Sheet that it is "unlikely that Essential Fish Habitat are subject to immediate undiluted contact with any of the outfalls from the facility," Massport requests that EPA specify that the WET test results be evaluated in the context of a mixing zone.
>
> Massport requests a definition of the standards against which WET test results will be compared.
>
> Part 1.A.19 on page 21 indicates that "EPA or DEP may use the results of the toxicity tests and chemical analyses ... to develop numerical effluent limitations for any pollutants..." However, it is well-documented that the WET test, if properly applied, is a screening test rather than a means of defining receiving water toxicity. Therefore, it is inappropriate to utilize the WET test results alone to develop effluent limits. Instead, Massport requests that if WET test results suggest a possible toxicological impact, a quantitative risk assessment study be performed to assess the likelihood of receiving stream toxicological impacts. The protocol for the risk assessment study should be jointly developed by Massport, its Co-Permittees, EPA, and DEP.
>
> Although the Draft Permit indicates that the WET test results "must" establish a CNOEC and a LC_{so}, it will not be possible to obtain definitive numerical values if the samples do not exhibit sufficient toxicity. Use of the word "must" in this context is therefore inappropriate and should be deleted.

V.E.7. Comment from Delta: Delta requests that the WET testing be deleted as a means of evaluating potential toxic effects of the receiving waters because there is a potential for poor correlations between WET test results and actual receiving water quality impacts. This potential has been well-documented due to the dissimilar nature of the laboratory tests compared to the receiving waters. This potential for poor correlation is especially likely at Logan because of the tidal and salinity affects of the Boston Harbor estuary. Notwithstanding this comment, if EPA decides to incorporate WET testing into the final permit despite the documented uncertainties of the test in these circumstances, we request that EPA include the following in the permit:

> As recognized by EPA in the Fact Sheet that it is '"unlikely that Essential Fish Habitat are subject to immediate undiluted contact with any of the outfalls from the facility," Delta requests that EPA require that the WET test results be

evaluated in the context of a mixing zone and provide in the permit for the appropriate dilution factors.

Delta requests that EPA specify the standards against which WET test results will be compared.

Because it is well-documented that the WET test, even when properly applied, is a screening test rather than a means of defining receiving water toxicity, Delta requests that EPA limit its use of the WET test results to this purpose. As currently drafted, the Draft Permit states that "EPA or DEP may use the results of the toxicity tests and chemical analyses ... to develop numerical effluent limitations for any pollutants ...." This is not the proper use of the WET test. Delta, therefore, requests that EPA amend the Draft Permit to use the WET test as a screening test and state that if the WET test results suggest a possible toxicological impact, a quantitative risk assessment study be performed to assess the likelihood of receiving waterbody toxicological impacts. Delta requests that the protocol for the risk assessment study be jointly developed by Massport, its Co-permittees, EPA, and DEP.

Delta requests that EPA remove the word "must" in the statement that the WET test results "must" establish a C-NOEC and a LC_{so}. Because it will not be possible to obtain definitive numerical values if the samples do not exhibit sufficient toxicity, the use of the word "must" in this context is inappropriate and should be deleted.

Response to Comments V.E.6-V.E.7: WET Testing requirements in storm water permits are not rare, especially when no previous WET Testing has been conducted. Examples of storm water permits which include WET testing requirements are the State of Washington's Phase 1 Municipal Stormwater Permit and the State of South Carolina's General Permit for Stormwater Discharges associated with Industrial Activity.

The claim that the Technical Support Document for Water Quality-based Toxics Control (TSD) focuses on dry weather discharges when discussing dilution is incorrect. Chapter 4.4.2(4) of the TSD, which refers to mixing zone analysis for oceans, states that "periods when discharge characteristics, oceanographic conditions (spring tide and neap tide currents), wet and dry weather periods, biological conditions, or water quality conditions that indicate that water quality standards are likely to be exceeded should also be noted" (emphasis added). Therefore, the TSD does not focus solely on dry weather discharges and thus may be used as guidance in this discussion of Whole Effluent Toxicity testing during wet weather deicing episodes.

The reason for requiring Whole Effluent Toxicity (WET) testing in the permit is that there is a lack of available data on the toxicity of the discharge from Logan Airport. A 2006 United States Geological Survey (USGS) study, *Aquatic Toxicity of Nine Aircraft Deicer and Anti-Icer Formulations and Relative Toxicity of Additive Package Ingredients Alklyphenol Ethoxylates and 4,5-Methyl-1H-benzotriazoles,* compared nine different

deicer formulations and determined that neither the primary ingredients (ethylene glycol and propylene glycol) nor the known additives accounted for all observed toxicity of these formulations. Therefore, the permit requirement for WET testing is valid in order to gain further evidence to determine whether the discharge causes, has the reasonable potential to cause, or contributes to an excursion above a numeric or narrative criterion for whole effluent toxicity. See Response to Comment V.B.1 concerning unknown toxicity of deicing chemicals.

The TSD, Chapter 3.2, p. 55, states:

> If the regulatory authority, after evaluating all available information on the effluent, in the absence of effluent monitoring data, is not able to decide whether the discharge causes, has the reasonable potential to cause, or contributes to, an excursion above a numeric or narrative criterion for whole effluent toxicity or for individual toxicants, the authority should require whole effluent toxicity or chemical-specific testing to gather further evidence. In such a case, the regulatory authority can require the monitoring prior to permit issuance, if sufficient time exists, or it may require the testing as a condition of the issued/reissued permit.

Furthermore, Chapter 1.5.1 of the TSD, p. 20, states that WET testing "allows prediction of ecological impacts before they occur. NPDES permit limits can therefore be developed before an actual ecological impact occurs." Reporting the WET test results during a deicing episode at Outfalls 001, 002, and 003 will generate data for EPA and MassDEP to use in evaluating the overall toxicity of the discharges.

The Water Quality Guidance for the Great Lakes System contains an exclusion for wet weather discharges: 40 C.F.R. Part 132.4(e)(1) states, "The Great Lakes States and Tribes *are not required* to apply these implementation procedures in establishing controls on the discharge of any pollutant by a wet weather point source" (emphasis added). That is, 40 C.F.R. Part 132.4(e)(1) states that the Great Lakes States and Tribes are not required to apply the proposed Implementation Procedures in establishing water quality based-controls on wet-weather point source discharges to the Great Lakes System (58 FR 20840-42). Since conditions during dry-weather periods remain fairly constant, EPA has been able to develop general guidance on many implementation procedures that can be applied to most point source discharges. Due to high degree of variability associated with wet-weather conditions, EPA has not developed a *general* set of implementation procedures for uniform application to all wet-weather point source discharges. Instead, EPA's National policy has been to allow permitting authorities familiar with local wet-weather conditions to establish site-specific controls on wet-weather point source discharges to implement technology-based requirements based on the permitting authorities' best professional judgment and to meet water quality standards. Therefore, whether or not the implementation procedures of the GLI are used to establish controls on wet weather discharges is up to the permitting authority. The use of WET testing and WET effluent limits are not ruled out by the GLI guidance, but rather are to be determined by each permit issuing authority. In the case of this permit, the permitting authorities are EPA Region I and MassDEP. What requirements are established should be based on their best professional judgment.

Additionally, the GLI states, "Where a permitting authority lacks sufficient information to determine pursuant to section D of this procedure whether the WET of an effluent is or may be discharged at levels that will cause, have the reasonable potential to cause, or contribute to an excursion above any numeric WET criterion or narrative criterion within a State's or Tribe's water quality standards, then the permitting authority should consider including in the NPDES permit appropriate conditions to require generation of additional data and to control toxicity if found, such as: WET testing requirements to generate data needed to adequately characterize the toxicity of the effluent to aquatic life" (emphasis added) (60 FR 15423). This is consistent with the TSD, which also states that WET Testing is a valid permit requirement in order to gain additional data.

Part I.A.19 of the permit states that EPA and MassDEP may use the results of the toxicity tests to develop numerical effluent limitations for any pollutants. This is supported by Chapter 3.3.3 of the TSD, p. 60, which states:

> Once the toxicity data have been generated for a discharger, the regulatory authority must decide whether or not the results show that the permittee causes, has the reasonable potential to cause, or contributes to an excursion of an applicable numeric or narrative water quality criterion and therefore needs to limit effluent toxicity.

The comment from Massport suggests that if the WET test results show a toxicological impact, a quantitative risk assessment study should be required, in place of numerical effluent limitations, to assess the likelihood of receiving stream toxicological impacts. Chapter 5.8 of the TSD states:

> Where monitoring indicates unacceptable effluent toxicity, one principle mechanism for bringing a discharger into compliance with a water quality-based whole effluent toxicity requirement is a toxicity reduction evaluation (TRE). The purpose of a TRE is to investigate the causes and identify corrective actions for difficult effluent toxicity problems. The permitting authority may require that the permittee conduct a TRE in those cases where the discharger is unable to explain adequately and immediately correct exceedances of a whole effluent toxicity permit limit or requirement.

Additionally, Toxicity Identification Evaluation (TIE) procedures are often recommended by EPA, as part of a TRE, in order to characterize and identify the cause(s) of toxicity.[57]

Therefore, the option to conduct a TRE in place of establishing effluent limitations, under the discretion of EPA and MassDEP, has been added to the permit in the case that the permittee is unable to explain the finding of a toxicological impact. Additionally, completion of a TIE as a component of the TRE, under the discretion of EPA and MassDEP, has been added to the permit to characterize and identify the cause(s) of toxicity. The following has been added to Part I.A.19 of the permit:

> Additionally, under the discretion of EPA and MassDEP, a toxicity reduction evaluation (TRE) may be required, as appropriate, in place of effluent limitations,

57 Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program. (EPA, March 2001).

in the event that the permittee is unable to explain the finding of a toxicological impact. Also, under the discretion of EPA and MassDEP, a Toxicity Identification Evaluation (TIE) may be required as a component of the TRE, as appropriate, in order to characterize and identify the cause(s) of toxicity.

The use of the word "must" in the description of the reporting of a CNOEC and a LC_{50} does not imply that "definitive numerical values" must be reported, as suggested by the comments from Massport and Delta. In the case that the samples do not exhibit toxicity, a reporting of >100% is acceptable.

In response to the request that WET Test results be evaluated in the context of a mixing zone, it is inappropriate to specify dilution with a monitoring only requirement. The purpose of the WET Test is to determine the toxicity at the end of the pipe in order to later determine (or help determine) if a limit should be put in a future permit, as appropriate. If in the future EPA determines the need for a WET effluent limitation, then limits will be evaluated based on the applicable dilution.

The comments generally seem off-track, in that they relate to what the EPA would need to do if it was to establish a WET *effluent limit*, whereas at this time the EPA is only establishing a WET *testing requirement*. For example, Massport is mistaken in saying that WET *testing* requirements are appropriate only in NPDES permits where there is a reasonable potential to exceed a numeric whole effluent toxicity water quality criterion or a narrative water quality criterion (that cannot be adequately addressed by a chemical-specific limit). Rather, the purpose of the *testing* requirement is to determine (or help determine) *whether* there is a reasonable potential for such exceedences. EPA is not making any final decisions in this permit about whether and under what circumstances it will add a WET effluent limit to a future permit. While the permit contains a statement about what the EPA might do in the future, the EPA has added to that statement the qualification that any future requirements will be added only "as appropriate." What is appropriate will be determined by the EPA at the time of issuing a future permit, and the permittees (and others) will have an opportunity to comment then. While the EPA does not necessarily agree with the commenters' arguments about why it might not be appropriate to base effluent limitations on WET testing results, there is no need to contest now what the EPA may or may not do in the future.

Change to permit: Addition to Part I.A.19:

Additionally, under the discretion of EPA and MassDEP, a toxicity reduction evaluation (TRE) may be required, as appropriate, in place of effluent limitations, in the event that the permittee is unable to explain the finding of a toxicological impact. Also, under the discretion of EPA and MassDEP, a Toxicity Identification Evaluation (TIE) may be required as a component of the TRE, as appropriate, in order to characterize and identify the cause(s) of toxicity. Also, add "as appropriate" to the first sentence of Part I.A.19.

V.E.8. Comment related to WET Testing from MA Riverways: This same argument can be put forward for the Whole Effluent Toxicity testing that is slated for year two and four of this permit. Why wait until year two? Would it not be better to require toxicity testing as soon as possible after this permit is made final in order to determine if the deicing use has been introducing potentially toxic effluent into the receiving waters? This holds true for delaying the reporting of the WET results until May instead of making the results available as soon as practicable. It is typical to have WET results due the month following the testing and this seems reasonable for this permit as well as even if reporting occurs quarterly for most parameters. Year one testing and quicker reporting of results increases the protection level of the receiving waters as it allows for more immediate corrective measures should problems be identified during the chronic and acute testing.

Footnote 11 refers to WET sampling at outfall 001 but not outfalls 002B, 003B, and 004B which also receive deicing runoff. We would like to recommend these other outfalls also be tested unless it can be definitively shown the concentration, nature and constituency of the deicing running into each of these outfalls is identical and highly unlikely to produce different WET results. Will the effluent be diluted for the acute testing?

Response to Comment V.E.8: Based on this comment from MA Riverways, EPA has determined that Massport shall perform Whole Effluent Toxicity (WET) Testing during year one and year three of the permit, instead of the draft permit requirement of during year two and four. Additionally, Massport shall report the test results to EPA by the 15th of the month following the WET Test, instead of the draft permit reporting date of before May 15th.

A typographical error in the Fact Sheet Part V.E.5 states that WET Testing is only required at Outfall 001. Since the Fact Sheet is a final document, it will not be changed, but this response will serve to document the error. The draft permit actually required WET Testing at Outfalls 001, 002, and 003 during deicing episodes. These requirements are retained in the final permit.

The marine chronic and modified acute WET tests shall be conducted in accordance with the test procedures and protocols set out in Attachment A to the permit, Marine Chronic Test Procedure and Protocol. As specified in the Attachment, the dilution water shall consist of an uncontaminated source of natural seawater or deionized water mixed with artificial sea salts. [Dilution water is required as part of the WET testing procedures and is a different concept altogether than the dilution category (discussed above in Response to Comment V.E.6 – V.E.7) which must be considered when implementing a WET effluent limitation.]

Change to permit: In the table at Part I.A.3, replace the measurement frequency of "2nd & 3rd year DS" for WET Testing with "1st & 3rd year DS." Footnote 11, Part I.A.3, replace "once during the second year of the effective date of this Permit and the fourth year" With "once during the first year and once during the third year from the effective

date of this Permit." Additionally, the second to last sentence of Footnote 11 shall be changed to, "The report and summary sheet shall be submitted by the 15th of the month following the WET test."

V.E.9. Comment related to WET Testing from Public Meeting on 10/5/06: Is any biological monitoring required? Is clam/tissue testing required by the draft permit?

Response to Comment V.E.9: Whole Effluent Toxicity (WET) testing during deicing episodes at Outfalls 001, 002, 003, and 004 are required twice during the permit. WET testing measures the potential toxicity of all chemicals in a solution by exposing laboratory populations of aquatic organisms such as fish, invertebrates, and algae to diluted and undiluted effluent samples under controlled conditions. The standardized procedures of WET tests allow one to determine the actual environmental exposure of aquatic life to an effluent or ambient water, even if there is a lack of knowledge of the chemical, physical, and biological characteristics of that discharge or ambient water. For the above mentioned reasons, biological monitoring is not required in this permit, as WET testing serves instead to assess the discharge of toxic amounts of pollutants to surface waters; however, a biological analysis is required as part of the Water Quality Study. Part I.D of the permit requires Massport to complete a Water Quality Study consisting of a biological, chemical, and toxicological analysis of Logan Airport's storm water discharges and the resultant receiving water quality in order to characterize the impacts of deicer contained in storm water discharge (see Response to Comment I.D.2).

Change to permit: none.

V.E.10. Comment related to WET Testing from MA Riverways: Requiring sampling for priority pollutants would be a sound addition to this permit given the amount of fuel storage at Logan, maintenance activities, refueling, deicer use, heavy plane, heavy equipment and vehicle traffic and other activities. These activities all pose a chance of occasional accidents or activities that are not undertaken with full compliance of the best management practices and stormwater management plan leading to pollutants entering into the stormwater drainage system. Whole Effluent toxicity testing, which would provide this priority pollutant testing, is not required of the deicing effluent and will not likely capture nonpoint pollutants associated with wet weather runoff at the airport. We understand, and heartily support, the co-permittee language in this draft permit will help control nonpoint source pollution but it may not be as effective as necessary to prevent damaging nonpoint source pollutants from entering the waterways from this very active and complex site.

Response to Comment V.E.10: Whole Effluent Toxicity Testing is required in the permit of the deicing effluent at Outfalls 001, 002, and 003 twice during the permit (refer to Response to Comment V.E.1 – V.E.3). Marine Chronic WET Tests include testing requirements for some priority metals (Cd, Cr, Pb, Cu, Zn, Ni, as well as Al), not priority pollutants, which are submitted to EPA for review. The permit may be modified by EPA, as appropriate, in the event that metals are detected in these discharges from the airport, in order to set further monitoring requirements or effluent limitations, if it is

determined that the reasonable potential for water quality violations exists. Additionally, the permittee is required to include a priority pollutant scan in each permit application. This priority pollutant scan is used in determining the need for monitoring specific pollutants in the permit.

Change to permit: none.

V.E.11. Comment from Massport on § I.A.3 Deicing Episodes (Pgs. 7-8): A number of Co-Permittees have indicated that the glycol manufacturers have removed the Nonylphenol and Tolytriazoles from the most recent formulations of glycol and anticipate phasing in this new formulation this coming winter at the Airport. Massport requests the removal of the Nonylphenol and Tolytriazoles reporting requirements upon a showing that they are no longer in use. In the interim, Massport requests at least 180 days from permit issuance to develop an appropriate protocol and procedure for analyzing Nonylphenol and Tolytriazoles. A standard EPA-approved method is not available for Nonylphenol and Tolytriazoles. Consequently, Massport needs additional time to determine the appropriate method for analysis. In addition, the EPA describes commercial nonylphenol as phenol, 4-nonyl-branched and 4-nonylphenol, however, there are several other isomers that exist. Massport requests to work with EPA and DEP to determine and confirm what Nonylphenol compounds must be reported.

V.E.12. Comment from Delta: EPA has not provided a basis for requiring testing of Nonylphenol and Tolytriazole during deicing activities. Delta requests that EPA provide an explanation of why the Agency feels this testing is appropriate. Notwithstanding this comment, Delta is concerned about EPA testing methodology for Nonylphenol and Tolyltriazole should EPA continue to include these parameters in the permit monitoring requirements.

V.E.13. Comment from Continental Airlines: Many of the draft permit's monitoring and sampling requirements for DAC are more stringent and excessive than what may be necessary. For example, nonylphenol and tolyltriazole are no longer present in the newest formulations of propylene glycol aircraft deicing/anti-icing fluids; therefore continued testing may be ineffective.

Response to Comments V.E.11-V.E.13: Part VI.E.4.b. of the Fact Sheet explains the reasoning for requiring monitoring of nonylphenol and tolyltriazole. Tolyltriazole (TTZ) is a common corrosion inhibitor and flame retardant often added to deicing chemicals. TTZ's aquatic toxicity data indicate that it is significantly more toxic than glycols. Nonylphenol is a nonionic surfactant often added to deicing fluids to reduce surface tension. Because of the toxic properties of TTZ and the endocrine disrupter properties of nonylphenol, EPA is requiring Massport to sample Outfalls 001, 002, 003, and 15% of the 44 runway/perimeter outfalls for these substances during a deicing event twice per deicing season.

According to the TSD, EPA is permitted to require monitoring of specific pollutants in the permit if there is a lack of available data on the pollutant in the discharge from Logan

Airport. The Technical Support Document for Water Quality-Based Toxics Control (TSD), Chapter 3.2, p. 55, states:

> If the regulatory authority, after evaluating all available information on the effluent, in the absence of effluent monitoring data, is not able to decide whether the discharge causes, has the reasonable potential to cause, or contributes to, an excursion above a numeric or narrative criterion for whole effluent toxicity or for individual toxicants, the authority should require whole effluent toxicity or chemical-specific testing to gather further evidence. In such a case, the regulatory authority can require the monitoring prior to permit issuance, if sufficient time exists, or it may require the testing as a condition of the issued/reissued permit.

Additionally, Section 308 of the CWA grants EPA broad authority to require NPDES permittees to monitor "at such locations [and] at such intervals" as it shall prescribe, "whenever [it is] required to carry out the objective of [the Act]." Under section 308(a), the EPA has authority to monitor waste streams "at such locations" necessary to "determin[e] whether any person is in violation of [an] effluent limitation." Texas Municipal Power Agency v. Administrator of United States Environmental Protection Agency, 836 F.2d 1482, 1489 (5th Cir. 1988) "As section 308(a) makes clear, EPA policing of effluent limitations is instrumental to its achievement." Id. Similarly, under section 402, the EPA has broad powers to impose NPDES permit conditions, "to assure compliance with" effluent limitations required by the CWA, including authority to "prescribe conditions for [NPDES] permits . . . including conditions on data and information collection. . . ." See Montgomery Environmental Coalition v. Costle, 207 U.S. App. D.C. 233, 646 F.2d 568, 586-87 (D.C.Cir.1980); United States Steel Corp. v. Train, 556 F.2d 822, 844 (7th Cir. 1977).

Therefore, the permit requirement for monitoring of nonylphenol and tolyltriazole is valid in order to gain further evidence to determine whether the discharge causes, has the reasonable potential to cause, or contributes to an excursion above a numeric or narrative criterion.

The parts of the permit requiring monitoring for nonylphenol and tolyltriazole at Outfalls 003 and 006 already allow Massport 180 days from the effective date of the permit until the monitoring and reporting requirements are effective to allow for the development and implementation of the Porter Street Monitoring Plan and the Runway/Permimeter Sampling Plan (see Parts I.A.3 and I.A.6). However, Part I.A.3 also contains a requirement to sample for nonylphenol and tolyltriazole at Outfalls 001 and 002. The monitoring and reporting requirements at these outfalls shall be effective upon the effective date of the permit (See 40 CFR §125.3), since development of sampling/monitoring plans will not delay the ability to sample as is the case for Outfalls 003 and 006, as discussed in Response to Comments IV.C.1-IV.C.2. This still allows the permittee a minimum of 60 days following signature of the permit until the monitoring requirements become effective. EPA believes this amount of time is sufficient to begin monitoring and reporting for nonylphenol and tolytriazole, especially since EPA has clarified the test method for nonylphenol and given guidance for tolytriazole testing, as clarified below and in Part I.A.10 of the permit.

Following any phasing out of nonylphenol and TTZ from the composition of glycols, Massport may submit a permit modification request for removal of monitoring requirements for these additives from the permit. EPA will then decide whether these monitoring requirements will be removed. EPA may replace the monitoring requirements with new monitoring requirements, if necessary, in order to monitor the discharge for new additives. There is no basis for removing the monitoring requirements for nonylphenol and TTZ at this time, absent confirmation that use of nonylphenol and TTZ has ceased.

At no place in the permit or fact sheet does EPA describe commercial nonylphenol as phenol, 4-nonyl-branched and 4-nonylphenol, as Massport suggests. However, EPA agrees with the commenters that nonylphenol is not a single chemical compound. Instead, nonylphenol is a term used to refer to a family of compounds which all have a central aromatic (or benzene) ring and a nine carbon side chain. 4-nonylphenol is the most common member of this family, making up over 90 percent of commercial nonylphenol. The nine carbon side chain of nonylphenol can have many different shapes and for this reason, several isomers exist.[58] Studies using capillary gas chromatographic separation have reported the occurrence of 8-12 isomers of nonylphenol.[59] Surfactants related to nonylphenol but with additional groups of atoms called ethylene oxide units are called nonylphenol ethoxylates. See footnote 58. Field data of airport runoff from a USGS study suggests that these surfactants (nonylphenol ethoxylates) degrade to nonylphenol.[60]

Part I.A.10 has been added to the permit for clarification of the sampling requirements for nonylphenol and tolytriazole. Part I.A.10 states, "For the outfalls with monitoring requirements for Nonylphenol as specified above, Massport shall use ASTM Standard Test Method D 7065 (Determination of Nonylphenol, Bisphenol A, p-tert-Octylphenol, Nonylphenol Monoethoxylate and Nonylphenol Diethoxylate in Environmental Waters by Gas Chromatography Mass Spectrometry), or submit an alternative method to EPA for approval. For the outfalls with monitoring requirements for Tolytriazole, Massport shall use a test method capable of achieving a minimum level (ML) of ≥1 mg/L Tolytriazole."

Additionally, for clarification purposes, the units for tolytriazole which were inadvertently omitted from the Table at Part I.A.6 of the permit, have been added as "ug/L", to be consistent with the units required for tolytriazole on the Table at Part I.A.3.

---

58 Cox, Caroline. "'Inert' Ingredient Factsheet - Nonyl Phenol and Related Chemicals." *Journal of Pesticide Reform.* 16 (1996, corrected 2003): 15-20.

59 Ieda, Teruyo, et al. "Analysis of Nonylphenol Isomers in a Technical Mixture and in Water by Comprehensive Two-Dimensional Gas Chromatography – Mass Spectrometry." *Environ. Sci. Technol.* 39 (2005): 7202-7207.

60 Corsi, S.R., D.H. Zitomer, J.A. Field and D.A. Cancilla. "Nonylphenol Ethoxylates and Other Additives in Aircraft Deiciers, Antiicers, and Waters Receiving Airport Runoff." Environ. Sci. Technol. 37 (2003): 4031-4037.

Changes to permit: Addition of Part I.A.10 to the permit (in place of Part I.A.10 from the draft permit) for clarification of sampling requirements for nonylphenol and tolytriazole: "For the outfalls with monitoring requirements for Nonylphenol as specified above, Massport shall use ASTM Standard Test Method D 7065 (Determination of Nonylphenol, Bisphenol A, p-tert-Octylphenol, Nonylphenol Monoethoxylate and Nonylphenol Diethoxylate in Environmental Waters by Gas Chromatography Mass Spectrometry), or submit an alternative method to EPA for approval. For the outfalls with monitoring requirements for Tolytriazole, Massport shall use a test method capable of achieving a minimum level (ML) of ≥1 mg/L Tolytriazole."

Addition of "ug/L" for tolytriazole to Table at Part I.A.6.

V.E.14. Comment from Delta: Delta is concerned that the deicing monitoring required in the Draft Permit is inappropriate. As noted above, Delta and other airlines must comply with FAA requirements relating to deicing activity and Delta is concerned about inconsistencies of EPA's Draft Permit with FAA requirements and safety implications. Delta has recommended that EPA adopt the FAA deicing program. Delta also recommends that the Draft Permit be revised to provide that MassPort and Co-permittees develop a monitoring plan consistent with FAA program requirements rather than impose the current monitoring plan proposed in the Draft Permit.

Response to Comment V.E.14: Refer to Response to Comment V.C.1 – V.C.3. EPA agrees with Delta that all procedures implemented pursuant to the permit should be consistent with FAA requirements and considerations of flight safety. A provision has been added to the permit to specify that all procedures implemented by the permit shall be performed consistent with FAA requirements and safety implications. Part I.A.14 of the permit now states, "All procedures implemented by the permit shall be performed consistent with FAA requirements and considerations of flight safety." In addition, the runway/perimeter sampling plan specifies that it must consider the safety for flights and personnel conducting the sampling when developing sampling locations in Part I.C.2 (formerly Part I.B.13) of the permit. However, there is no indication that the requirements to take periodic outfall samples as such will conflict with FAA requirements or interfere with safe operations.

Changes to permit: See Response to Comments V.C.1 – V.C.3 for addition of Part I.A.14.

V.E.15. Comment from Delta: The Draft Permit currently allows 90 days from the time of permit issuance before the monitoring and reporting requirements for Outfall 003B shall become effective to allow for the development and implementation of the Porter Street Monitoring Plan. Pursuant to our comment above [Comment V.E.14], no deicing activities occur in the drainage areas for Outfall 003. Therefore, Delta requests that all requirements for monitoring associated with deicing episodes be removed for this outfall. Notwithstanding this comment, should EPA decide not remove [*sic*] the requirements in Section I.A.3 as they apply to Outfall 003, Delta requests that the 90 day grace period be extended to 270 days to allow for development and implementation of the Porter Street

Monitoring Plan, and the associated training, personnel, and implementation needs to address the new Plan. This Plan would include the development of an analytical method for Nonylphenol and Tolytriazole. Developing an analytical method for these constituents can not be accomplished within 90 days.

Response to Comment V.E.15: The US Airways hangar is located within the drainage area of the Porter Street Outfall (Outfall 003). Additionally, glycol storage by Massport and glycol transport by trucks occur within the Porter Street drainage area. Therefore, the requirement of monitoring for deicing activities at Outfall 003B shall remain in the permit due to the possibility for discharge of deicer.

See Response to Comments V.E.11-V.E.13 concerning the request for a delay in monitoring and reporting for tolyltriazole (TTZ) and nonylphenol.

Change to permit: None.

VI. MONITORING OF 44 RUNWAY/PERIMETER OUTFALLS

VI.A. Comment from Ed Deveau (on behalf of Representative Anthony Petruccelli): One question that I had saved so it is on the record is the overall differences in the monitoring of the outfalls all around Logan Airport, particularly A-1 through A-44. If you look at Page 7 in the fact sheet, it states here that there has been little monitoring throughout the years. And that's something that's a big concern, I'm sure, to all of us. How long has there been no monitoring of this and why just now are we beginning to monitor this water? How long has this been going on?

Response to Comment VI.A: The current permit was issued in March, 1978. No monitoring of the 44 runway/perimeter outfalls was required at that time. However, the requirement in the new permit for sampling of 15% of the outfalls during a deicing episode will collect data in order to analyze the content of the storm water. This monitoring requirement has been retained in the final permit. Whatever the reason for not requiring this monitoring in the past, the situation is now being corrected.

Change to permit: none.

VI.B. Comment from Pasquale Caruso: And I appreciate you people coming because you really gave me an education tonight. And obviously a lot has to do with Massport. Now, what I found very disturbing was last week, if there's 44 drainoffs that go into the harbor, and I realize this is a complex issue, why is there only – what I'd like to find out is why is there, say 12 or 14 that only have a filter on it. And it seems to me if they would start by just putting filters on all these drain pipes that would be – that would definitely help to eliminate some of the problem.

And like I say, again, I found a lot out at tonight's meeting and it's just, like I say, the main concern of everybody is how the water, Boston Harbor, and if we're cleaning up the harbor, here we are on one hand we're cleaning up the harbor, on the other hand we're

letting all these pollutants go into the harbor, and it seems like some of these concerns should be addressed maybe when they start to issue this permit. And like I say, not to be redundant here, but the main thing is why can't they put filters on these drain pipes or, you know what I'm trying to say, that go into the harbor, and I think that would be a major thing that whether Massport of whoever that would be in charge of putting these filters on, I think it would have a major impact, and people would feel better overall. Thank you very much.

VI.C. Comment from Ron Hardaway: And also with Constitution Beach, there should be some kind of way of doing more treatment there than just the one treatment outflow, you call it. There's 11 locations that dump right into there. Your have the same thing over toward Winthrop but there's a lot more water involved to get over there, so there should be more treatment right there.

Now, speaking about the treatment itself, Texas Gas, Tennessee Gas, a lot of other companies, large companies, have mechanized systems to read what goes on in their pipes, whether it's liquid or whether it's air. There's no reason you can't do the same thing here, make it an automated thing, put it as a line item in your budget that we can read and know what it is, what you're working on, and they have technology; that's the thing to do.

[In response to a question]…Yes, it's not manual. Automated. Because a lot of things we hear, well, you have to protect the individual that's going out there and doing it. I can't see how one individual could do it anyway. There's other methods. And publicize what your plan is. Thank you.

VI.D. Comment from John Vitagliano: With respect to the comments that have been issued earlier, I also was somewhat astounded to realize that over the past decades that something like 44 of the so-called smaller outfalls around Logan Airport have actually been not monitored and there are no effluent limits that are in place for those monitoring – I mean for those 44 outlets, and I totally agree with Mr. Hardaway's comment that there is technology available today, which I totally support, and it ought to be a requirement for the permit that every single one of those 44 outfalls be completely monitored on a constant 24-hour-a-day basis. The technology exists, and that ought to be a requirement for Massport and their tenants to fund to put in place.

Again, I also agree with the comment from a former trooper from Massport that absolutely a requirement for Massport to sample only 15 percent, about seven of the current outfalls, is absolutely unacceptable. And one of the reasons for this, by the way, as your own charts indicate, there is clearly a difference between the Deer Island sewage treatment plant and what we're talking about here, and one of the reasons for that is that the almost complete lack of flow in this entire Winthrop and East Boston bay area which has been caused, frankly, by the fill-in of Logan Airport here in the first place back in the last 1940s. Up until 1948 this was all open harbor and Winthrop and East Boston had complete access to one of the most beautiful recreational water areas in the county, and Governor's Island that you were talking about earlier where the fire training now takes

place, it wasn't too long ago when it was actually an open, active, viable part of Boston Harbor, a recreational resource, as well as resources like Apple Island, for example, into Logan Airport. So, that's – because of Logan Airport's very presence that is a cause of the lack of flushing, if you will, in the area that affects our beaches, Constitution Beach, Donovan's Beach, and Winthrop and so forth, Logan Airport and whoever is in charge of Logan Airport and their tenants, have a clear obligation to make sure that every single cubic inch of water that is around Logan Airport is as clean as can possibly be. That's Logan Airport's ongoing obligation for being there in the first place and taking away our harbor from us.

VI.E. Comment from MC Russo: Thank you for the opportunity to speak. I'm Mike Russo; I'm a lifelong resident of the Orient Heights section of East Boston. Mr. Hardaway made a very, very strong point and I want to also speak to that about the possibility of real time remote monitoring in at the very least all of the outfall areas that empty into the harbor across from Constitution Beach and the swimming beaches in Winthrop. I work in technology procurement and life sciences at the Dana Farber Institute here in Boston. We monitor all of our gray water that goes into the MWRA system, and at the very least I think that it would be an intelligent choice to take a look at the technologies that are currently available and that are leading edge technologies and would put us in a much more comfortable position in terms of what we're seeing at a swimming beach, a public amenity. That's all. Thank you.

VI.F. Comment from Joanne Cardinelli: Would they make catch basins around the airport to catch – to catch that? And I'm sure they have plenty of money to do it, right? Like a catch basin to catch all this? Is it a crazy question or what? ...All right. Thanks.

VI.G. Comment from Public Meeting on 10/5/06: Why can't oil/water separators and/or filters be required on all 44 outfalls?

Response to Comments VI.B – VI.G: Part VI.F of the Fact Sheet, p.28-29, states that since not enough data has been collected to determine whether numeric effluent limits are necessary, EPA requires monitoring at the storm water discharges as well as the development of BMPs that are considered non-numerical effluent limitations for the storm water discharges. If any of the monitoring data required by the permit reveals that there are water quality violations, EPA can modify the permit to add numeric effluent limits. Treatment of the outfalls, as suggested by several comments above, would then be needed to the extent necessary to enable the outfalls to meet the designated effluent limits. Treatment at the outfalls also may be appropriate as BMPs. However, in the storm water program, the EPA generally does not specify in advance that particular treatment systems must be installed, but rather requires permittees to consider the need for treatment when developing BMPs. The determinations by permittees are subject to EPA oversight. For example, the EPA could decide to review Massport's SWPPP. In its comments on the draft permit – cost projections, Massport included the costs for certain treatment systems. As indicated in EPA's BCT/BAT analysis, the EPA expects Massport to consider such measures as it develops its SWPPP, and thinks it would be

commendable for Massport to make the kind of investments suggested by the cost projections.

The permit requires Massport to develop a Runway/Perimeter Storm Water Outfalls Sampling Plan of 15% of the 44 outfalls (A-1 through A-44), which will serve to provide a representative sample of the water discharged from these outfalls. In developing the plan, Massport shall use specific criteria discussed in the Fact Sheet, p. 29, in order to assure the samples are representative of the actual discharge though the 44 outfalls (as well as to assure consistency with flight and sampling personnel safety). These criteria are flexible from one storm event to the next since the criteria could change depending on the runway used.

No changes were made to the permit in response to these comments. EPA believes that the new permit adds important new monitoring requirements, but that requiring more monitoring at this time would be unduly burdensome. Also, the new permit requires the development of BMPs to control pollutants. However, as explained elsewhere, requiring specific numeric effluent limits (or specifying in advance the need for treatment systems) generally is not appropriate at this time.

Change to permit: none.

VI.H. Comment from Mary Berninger: And could consideration also be given to a requirement that all of the 44 perimeter outfalls be tested during an event? It seems to me that 15 percent as noted is very inadequate to answer our concerns. Thank you.

VI.I. Comment from Public Meeting on 10/5/06: Sampling of only 7 of the 44 outfalls is not enough and is also too infrequent.

VI.J. Comment from Public Meeting on 10/5/06: Who monitors the runway discharges?

Response to Comments VI.H & VI.J: Massport is required to monitor the runway discharges, as specified in the permit. EPA has determined that monitoring of 15% of the 44 Runway/Perimeter Outfalls by Massport, in accordance with an approved sampling plan as specified in Part I.C.2 (formerly Part I.B.13) of the permit, will provide a characterization of the storm water flow from the outfalls. EPA believes that the sampling from 7 of the 44 runway/perimeter outfalls as specified by the runway/perimeter sampling plan, according to Part I.C.2 of the permit, will provide a representative sampling of the storm water runoff from the runways/perimeters and provide sufficient data to analyze the content of the discharges. The monitoring will be done by the permittee (Massport), in accordance with EPA requirements and subject to EPA oversight, as in the case of other NPDES permits.

Additionally, the Water Quality Study required by the final permit will include a requirement for real-time monitoring of the outfalls, during a deicing episode, with expected contamination of deicers (Outfalls 001, 002, 003, and 006) for parameters such

as temperature, DO, and conductivity. Refer to Response to Comment IV.A.2 – IV.A.3 for more information concerning real-time monitoring requirement and Response to Comment V.D.2 for the actual language incorporated into Part I.D.2 of the Water Quality Study.

Change to permit: See Response to Comment IV.A.2 – IV.A.3 for real time monitoring requirements and Response to Comment V.D.2 for incorporation of real time monitoring at Part I.D.2 of the permit.

VI.K. Comment from Public Meeting on 10/5/06: Do the same criteria apply for all outfalls?

Response to Comment VI.K: The monitoring requirements of the permit are specified in the permit limit tables. Unlike the major outfalls (Outfalls 001, 002, 003, and 004) the Runway/Perimeter Outfalls do not require sampling for surfactants, fecal coliform, enterococcus, PAHs (total and specific compounds), or benzene. The Runway/Perimeter Outfalls also do not require WET testing, which is a requirement for Outfalls 001, 002, and 003.

Change to permit: none.

VI.L. Comment from MA Riverways: Logan is required to sample a representative quantity of its 44 storm water discharges twice a year. More guidance would be judicious on the actual sampling procedure. (e.g. when during the storm). Will the representative samples be batched? It is also unclear what information will be provided on flow. Is the Permittee being asked to estimate the total volume of stormwater over the course of the storm or the flow rate during the sampling which would allow a loading rate to be determined? Both pieces of information, total runoff volume and instantaneous flow rate, would be valuable and pertinent since this information would provide insight into the total loadings and loading rate from this site into the receiving waters.

Response to Comment VI.L: In Response to Comment IV.A.6, a requirement to sample during the first flush of pollutants has been added to the permit at Part I.A.1, Footnote 3, and Part I.A.3, Footnote 10. The permittee is required to sample within 30 minutes of the beginning of a storm event to encompass the first flush of pollutants. If sampling during the first 30 minutes is not practicable, the permittee must sample as soon after as practicable and describe why a grab sample during the first 30 minutes was impracticable and submit the information on or with the DMR (refer to Response to Comment IV.A.6 for the changes to the permit).

Refer to Response to Comment IV.D.1 – IV.D.2 for a discussion concerning replacement of continuous flow monitoring with flow modeling in the final permit. Flow shall be estimated quarterly with the average flow from the seven outfalls reported as average monthly and the maximum flow value from the seven outfalls reported as maximum daily, by using the results from the proposed flow model.

The monitoring results from the seven (15% of 44) runway/perimeter outfalls will be averaged for monthy average and the highest value taken for daily maximum, and reported as such. Averaged and maximum value samples differ from batched samples in that batched samples simply sum the sampling results, while averaged and maximum value samples report the average and maximum value results, respectively. This later procedure is the one that is "representative." The flow estimates from the flow model, along with the monitoring requirements from the seven Runway/Perimeter Outfalls should provide an understanding of the discharge from the 44 Runway/Perimeter Outfalls.

Change to permit: Refer to RTC V.D.2 for addition to Water Quality Study at permit Part I.D and refer to RTC IV.A.6 for inclusion of first flush language.

VI.M. Comment from Massport on § I.A.6 Deicing Episodes (Pgs. 13-14): The requirements on page 13, as currently written, appear to limit discharges to only 15 percent of the runway outfalls. Massport requests that EPA clarify the first sentence by adding a period after "from pavement and runway deicing" and making the following revision:

> "...from pavement and runway deicing. During a wet weather deicing episode, representative samples shall be collected from 15 percent…"

Response to Comment VI.M: The permit has been changed in accordance with this comment for clarification purposes. Additionally, the authorization to discharge storm water associated with industrial activity from aircraft deicing was intended to be included in this section of the permit. The phrase "and aircraft deicing" has been added to clarify this. Part I.A.6 of the permit has been revised to state that "the Permittee and Co-Permittees are authorized to discharge storm water associated with industrial activity from pavement and runway deicing and aircraft deicing. During a wet weather deicing episode, representative samples shall be collected from 15 percent of outfalls A-1 to A-44."

Change to permit: Part I.A.6 (see above).

VI.N. Comment from Massport on § I.A.6 Deicing Episodes (Pgs. 13-14): Massport requests eliminating the need to provide copies of the laboratory results from the two deicing episodes per deicing season with the DMRs. EPA typically does not require permittees to submit laboratory data. Massport will retain all laboratory results associated with this permit for a minimum of three years.

Response to Comment VI.N: In response to this comment, EPA has changed the requirement of the draft permit to submit the laboratory results to a requirement in the final permit to maintain the laboratory results from the two deicing episodes onsite for six years, to be consistent with Part II of the the Permit as discussed in Response to Comment I.A.3. In the event that EPA would like to review the results, a copy will be requested from Massport.

The permit has been changed at Part I.A.3, Footnote 10 and Part I.A.6, Footnote 14 from "Copies of the laboratory results from the two deicing episodes per deicing season shall be submitted with the DMRs in May" to, "Copies of the laboratory results from the two deicing episodes per deicing season shall be maintained onsite for six years."

Change to permit: Part I.A.3, Footnote 10, and Part I.A.6, Footnote 14 (see above).

VII. SIMILAR PERMITS

VII.A. Comment from Gail C. Miller: My name is Gail Miller. I'm here not representing the Friends of Belle Isle, although I've – Belle Isle Marsh Reservation, which is a wetlands, salt marsh, naturally resource area which Massport empties into on occasion. I just would like to say – and I'm submitting a document that I've gotten from the folks at the SeaTac Airport in Seattle, and it's about 88 pages, and it has stuff in there that I'll never be able to understand.

What concerns me, I guess, on a political level is that, I mean, I in particular am certainly not well versed in all of this. I mean, it's just outstandingly, overwhelmingly a difficult task. So here we are, the average individuals, trying to figure out what the EPA should be doing to protect us as citizens. We're almost asked to come here as scientists to tell you what to put in the permits. So I would suggest that you take the SeaTac permit and incorporate it as best you can, as much as it is similarly situated like Logan is, and it seems to me there are a lot of – there must be a lot of similarities.

But I am directed to ask the EPA what about the – I guess the secondary treatment. And there are standards, AKART standards – I have no clue what that is. However, I'm asked to ask the EPA if those standards are applying to SeaTac why aren't they applying to Logan. And in particular they were concerned with other things that was, I guess, outside the state water quality criteria, in particular zinc, copper, lead, I know we had a student who was supervised by her professor. I think at B.U., she came out with a study with extremely high levels of lead at the Belle Isle marsh inlet opposite Logan, so, we wonder where that is coming from. And it's suggested also that rubber that the tires are laying down in the airports are a significant source of problems. And in particular, I don't know about the situation here at Logan, but apparently the caulking that was used in joints and taxiways and aprons in the past had high levels of pcb's, or pcb's, [*sic*]and we don't know what the situation here is at Logan.

Additionally there's fuel contamination, which I don't know how we're going to suggest monitoring that, but I'm sure we have a lot of problems with that at Logan that we don't hear about. So with that, I will just basically close and note my comments, and I'm going to leave with you tonight that document from SeaTac.

[In response to a question]…A-K – it's all caps – A-K-A-R-T. And this is the permit issued by the State of Washington's Department of Ecology, in compliance with the provisions of the State of Washington Water Pollution Control Law and the Federal

Water Pollution Control Act, also known as the Clean Water Act, Title 13, US Code. So, no sense in reinventing the wheel.

Response to Comment VII.A: When writing the draft permit, EPA considered several NPDES Permits from the following facilities: CSX Transportation Rail facility, B&M East Deerfield Rail Yard, Global Company Chelsea Sandwich, LLC, Coastal Oil of New England, Inc, Gulf Oil Limited Partnership, T.F. Green State Airport, and General Mitchell International Airport.

EPA has now additionally reviewed NPDES Permit WA002465-1 for SEATAC International Airport. Elements from the SEATAC Permit BMP Plan associated with non-construction storm water runoff are similar to those in the permit for Logan.

In the SeaTac Permit, secondary treatment is used for reduction of BOD levels in the industrial wastewater. Secondary treatment usually employs a biological process whereby a large population of micro-organisms helps convert the remaining organic material into other forms which can be easily separated into solids and a clear liquid. Secondary treatment is not an appropriate requirement in this permit at this time. While installing treatment such as secondary treatment is the standard approach to controlling industrial wastewaters, this permit deals only with discharges related to storm water. In contrast, the SeaTac permit addresses industrial wastewater discharges as well as discharges relating to storm water. The standard approach for meeting technology-based requirements for storm water discharges is to require the development of BMPs (as is being done in this permit). Also, there is a lack of data showing water quality violations at this time. Thus, there is no basis for requiring secondary treatment based on water quality violations in this permit at this time.

Both the SeaTac and Logan permits establish technology-based effluent limits for the discharge of storm water (with the potential of fuel contamination) treated by an oil/water separator. The permit for SeaTac establishes technology-based limits for oil and grease and TSS, as does the permit for Logan. Both facilities employ the use of oil/water separators to attempt to meet the effluent limitations. The infrastructure of the south storm drains of SeaTac Airport contain oil/water separators and that permit contains requirements for BMPs, which suggests possible installation where separators are not already located. Logan Airport similarly uses oil/water separators for the treatment of discharges from Outfalls 001 and 002, including the discharge from the fuel farm through Outfall 001. This permit also requires a SWPPP for the identification and reduction of fuel and oil sources. Under this part of the SWPPP, Massport must develop BMPs to meet the effluent limitations. Possible BMPs could be use of additional oil/water separators at other outfalls throughout the airport.

The State of Washington's Water Quality Statute requires that facilities achieve All Known, Available, and Reasonable Methods of Prevention, Control, and Treatment (AKART). In the State of Washington's Permits, including SeaTac, AKART represents the most current methodology that can reasonably be required for preventing, controlling, or abating the pollutants associated with a discharge. As the Commonwealth of

Massachusetts does not have such a requirement, this Massachusetts permit is not subject to AKART Standards.

However, the Logan permit, and every Massachusetts permit, is subject to technology standards which are comparable to Washington's AKART standards. Technology-based requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (see 40 CFR § 125 Subpart A). Sections 301 (b)(2)(A) and (E) of the CWA require industrial dischargers to meet limitations based on Best Available Technology Economically Achievable (BAT) for toxic pollutants and Best Conventional Pollutant Control Technology (BCT) for Conventional Pollutants by July 1, 1984. The authority for imposing such requirements based on a permit writers best professional judgment (BPJ) is contained in Section 402(a)(1) of the CWA, which authorizes the EPA Administrator to issue a permit containing "such conditions as the Administrator determines are necessary to carry out the provisions of the Act."

For certain industrial sectors, Effluent Guidelines have been promulgated by EPA. An Airport Effluent Guideline for controlling the discharge of deicing chemicals is currently being developed but has not been publicly proposed and is not final. As in this case, when guidelines have not been promulgated for a specific sector, the permit writer can use many resources to develop limitations based on BPJ. For this permit the permit writer developed limitations by:

(1) Viewing Effluent Guidelines for sectors with similar pollutants, and
(2) reviewing limitations developed at similar facilities.

Also, EPA has taken account of all of the required BAT and BCT factors, as explained in Attachment A to this Response to Comments Document.

In development of this permit, EPA has taken into consideration the possibility of fuel contamination. According to Part VI.E.1.e. of the Fact Sheet:

> Aircraft at Logan use aviation fuel for power which is similar to diesel fuel. Many Co-Permittees fuel aircraft at the terminals from an underground pipe. Additionally, fueling contractors (some Co-permittees) fuel aircraft by tanker trucks at remote locations. Spills from fueling can cause pollutants to enter the separate storm water sewer. Aviation fuel contains benzene, toluene, ethylbenzene and xylene among other hydrocarbons (mixture of volatile organic compounds and polynuclear aromatic hydrocarbons)…Rather than attempt to establish effluent limits for every compound found in non-storm water or storm water containing diesel fuels, limits are typically established for the compounds that would be the most difficult to remove or demonstrate the greatest degree of toxicity. Generally, the higher the solubility of a volatile organic compound (VOC) in water, the more difficult it is to remove…Of these four compounds, benzene has one of the highest solubilities, is one of the most toxic constituents, and is found at relatively high concentrations in aviation fuels (between 200 and 9000 mg/L).[61]

61 See Agency for Toxic Substances and Disease Registry (ATSDR). 1995. Toxicological profile for jet fuels JP-4 and JP-7. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service; Agency for Toxic Substances and Disease Registry (ATSDR). 1998. Toxicological profile for jet fuels JP-5

Because of the reasons mentioned above, benzene can be considered one of the most important limiting pollutant parameters found in diesel fuel and aviation fuel. Building on this premise, benzene can be used as an indicator-parameter for regulatory and characterization purposes for waste water and storm water, which contains some diesel fuel and/or aviation fuel. The primary advantage of using an indicator-parameter is that it can monitor the effectiveness of a treatment process or other controls (such as BMPs) and evaluate the potential impact on the environment.

Therefore, the permit requires monthly sampling of benzene. This monitoring requirement is specified for discharges through Outfall 001, Outfall 002, and Outfall 004 during dry and wet weather, and for the discharges from the fuel racks, above ground storage tanks, and set-up tank through Outfall 001. This is a change from the draft permit, which required a benzene effluent limit (refer to Response to Comment IV.F.1 – IV.F.5), but the monitoring requirement continues to be an important check on whether excessive fuel is being discharged.

In addition to a monitoring requirement for benzene, the permit includes a section for Identifying and Reducing Discharges from Fuel and Oil Sources as part of the SWPPP. This part of the permit specifically addresses Above Ground Storage Tanks, Spill Prevention, Control, and Countermeasure Plan (SPCC), Minimum Requirements for ASTs, Minimum Requirements for USTs and Loading Rack Area, Fueling Aircraft, Aircraft Maintenance Activities, and Automotive and Ground Service Equipment Maintenance Activities. This part of the permit will require the identification and reduction of any potential fuel contamination of the storm water.

The contribution of rubber from tires to the discharge was considered in development of the permit. The rubber particles removed during runway maintenance could impact the total suspended solids (TSS) of the waste water discharges. The permit requires TSS monitoring on a monthly basis at Outfalls 001, 002, 003, 004, with a maximum daily effluent limit of 100 mg/L at Outfalls 001, 002, and 004 during both dry and wet weather, as well as monitoring the discharges from Outfalls 001D, 001E, with a maximum daily effluent limit of 100 mg/L, and quarterly monitoring of the discharges from Outfalls 005 and 006 during wet weather.

In response to the request for metals sampling, Marine Chronic WET testing requires chemical analysis of the discharge, including sampling for some priority metals (such as zinc, copper, and lead). This data will be analyzed during future permit re-issuance to determine the need, if any, to develop effluent limitations for metals.

In response to the request for sampling for PCBs, EPA has no evidence of the presence of PCBs at Logan and has no reason to believe that PCBs are present in the discharge from Logan Airport. Therefore, no sampling for PCBs is being required.

---

and JP-8. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service; and Sinclair Oil Corporation, Sinclair Material Data Sheet, Sinclair JP-8, Jet A, Turbine Fuel, Aviation Fuel, MSDS No. 62. Salt Lake City, Utah, July 2004.

Change to permit: none.

VII.B. Comment from Gail C. Miller: I am submitting for further review the National Pollutant Discharge Elimination System Waste Discharge Permit No. WA002465-1 as issued by the State of Washington for the SeaTac Int'l Airport.

This document (88 pages) seems to address issues similar to Logan Airport. Where applicable, all issues should be adopted here. Logan Airport discharges to an area of critical environmental concern – Belle Isle Marsh Reservation, a wetland/salt marsh resource.

Response to Comments VII.B: Refer to Response to Comment VII.A, above, for information concerning consideration of the SeaTac Permit when writing the permit for Logan Airport.

According to the Commonwealth of Massachusett's Areas of Critical Environmental Concern (ACEC) designations, Belle Isle Marsh is characterized as an ACEC, but this does not include any harbors or bays in this designation. Therefore, since discharges from Logan are to Boston Harbor, Boston Inner Harbor, and Winthrop Bay, and these locations are not ACEC, Logan does not discharge to an ACEC. For more information concerning ACEC, refer to the State of Massachusetts website for ACEC Designations at: http://www.mass.gov/dcr/stewardship/acec/acecs/l-rummar.htm

Nevertheless, the permit has been written to protect the receiving waters. This in turn helps to protect water bodies (such as the Belle Isle Marsh) to which the receiving waters flow.

Change to permit: none.

VII.C. Comment from Public Meeting on 10/5/06: Are all permits for airports the same?

Response to Comment VII.C: Although storm water permits for airports may be similar, consideration must be taken to ensure adequate protection of the receiving water based on individual facility characteristics. The existing water quality of the receiving water must be taken into account when setting water quality-based requirements. Also, when doing a BPJ analysis, local considerations (such as the bacteria problem identified in the Logan area) may be taken into account when setting technology-based requirements. Thus, permit requirements may vary from airport to airport.

Change to permit: none.

VII.D. Comment from Public Meeting on 10/5/06: Who adds conditions like in the Seattle (SeaTac) Airport Permit?

Response to Comment VII.D: Anyone may request additions to or changes from conditions in a draft permit, during the comment period. The final decision is made by the EPA Region and/or State issuing the permit.

EPA reviewed NPDES permits from the following facilities in developing the draft permit: CSX Transportation Rail facility, B&M East Deerfield Rail Yard, Global Company Chelsea Sandwich, LLC, Coastal Oil of New England, Inc, Gulf Oil Limited Partnership, T.F. Green State Airport, and General Mitchell International Airport. Several aspects from these permits were incorporated into the Logan permit.

For example, as discussed in Part VI.D.4 of the Fact Sheet, p.15, EPA reviewed the T.F. Green Airport Permit, a recently issued permit by the RI DEM for a major New England airport. The facility has limits for the potential discharge of pollutants from industrial activities at an airport and for the discharge of storm water from an above ground storage tank farm that stores and dispenses fuel. The permit establishes technology-based effluent limits for the discharge of storm water treated by an oil/water separator with the potential of aviation fuel contamination. The Logan permit similarly requires the discharges through Outfalls 001 and 002, which are treated by oil/water separators, to meet technology-based limits for oil and grease during dry and wet weather. Outfall 004 must also meet technology-based limits for oil and grease during dry and wet weather.

Additionally, EPA reviewed a permit for General Mitchell International Airport in Milwaukee, Wisconsin which has three outfalls that discharge storm water with the potential to contain aviation fuel contaminants. The storm water discharged is from the aviation and ground service equipment fueling area, an aviation fuel tank storage area, and a fuel tank farm area. The State of Wisconsin Department of Natural Resources established technology-based effluent limits for the three outfalls based on treatment of storm water by an oil/water separator. The Logan permit similarly requires the discharges from the aboveground storage tanks, fuel loading rack area, and set-up tank through Outfall 001, which are treated by an oil/water separator, to meet technology-based limits for oil and grease.

As noted above, EPA also looked at the Seattle (SeaTac) Airport permit, when developing the final permit.

Change to permit: none.

VII.E. Comment from Public Meeting on 10/5/06: Logan is the closest airport to a residential area in the world, so Seattle criteria may be inadequate.

Response to Comment VII.E: Water permit requirements are based on the effects on receiving waters and application of technology-based requirements, rather than the closeness of residential areas to an airport. EPA believes that the limits established in the permit are sufficient to protect the existing water quality of the receiving waters (refer to Response to Comment X.A.1 – X.A.2). Additionally, EPA reviewed the permit for SEATAC International Airport and found that applicable aspects in the SEATAC permit

were already included in the Logan Airport draft permit (refer to Response to Comment VII.A).

Change to permit: none.

VII.F. Comment from JetBlue Airways: JetBlue also objects to this draft Permit on the basis that it is inconsistent with other permits for similarly situated airports, such as John F. Kennedy International Airport and LaGuardia International Airport in New York City. These permits are less restrictive and take the position that additional information is needed in many cases.

Response to Comments VII.F: Additional information is needed in many cases in the Logan Airport permit as well. For this reason, many parameters in the permit do not require effluent limits, only monitoring. The only parameters which require effluent limits at some Outfalls during certain conditions are pH, oil and grease, and TSS. Monitoring for several other parameters serves to collect the necessary information for characterization of the discharge from the airport.

Additionally, EPA has decided to replace the BMP for deicer, Part I.B.7 of the draft permit, with a SWPPP for deicer, consistent with the MSGP-2000. Refer to Response to Comment V.D.2 for the specific language to replace Part I.B.7 of the draft permit. The requirements of the SWPPP for deicer consistent with the MSGP-2000 take into consideration that more information is required before additional controls on deicers should be implemented. Following the General Permit is more appropriate than following the JFK or LaGuardia Permit.

Change to permit: See Response to Comment V.D.2 for changes to Part I.B.7 of the permit.

VIII. HEALTH CONCERNS

VIII.A. Comment from Ed Deveau (on behalf of Representative Anthony Petruccelli): And children are in the water, and people use the sailing center in Pierce Park and they fish in Winthrop off the Winthrop Bridge. So, this is an issue. People want to know what this is doing to them, if they – if it's in the fish that they catch, of if it's in the water that their children play in.

VIII.B. Comment from Anjie Preston: East Boston's filled with a lot of people that have a lot of concerns and health issues based on the emissions that we're receiving from the airport. If you guys really want to be up front with us, why don't you put in our newspapers what you guys are doing? Tell us what your plans are. Tell use what happens when these toxic levels reach levels that are unacceptable. We don't know what acceptable levels are; we don't know what unacceptable levels are. You really aren't tell us much of anything but you want us to really trust you guys and think that you're protecting our environment? I haven't seen it. I've only been here 20 years and I know that's a short time compared to most of the people that have been here, but it's important

to us, our health of ourselves, our children, grandchildren, and everybody that lives in the area, we need to know more than you guys are giving us.

VIII.C. Comment from Joanne Cardinelli: I have a godson that when he would go in swimming about five years ago I used to have to tell him to stay out of the water because he would break out in a fever, and that's from bacteria. My own son got spinal meningitis from the beach, from Constitution Beach. A woman across the street from me was sick for like six weeks from spinal meningitis also. That was all from the water. And I believe that's from all the fallout also. And there's another one. Maybe this is crazy.

VIII.D. Comment from Joanne Cardinelli: My name is Joanne Cardinelli and I'm from the Jeffries Point area in East Boston. As Angie said that the air quality down there is terrible. I have to shut my windows, my doors, and every once in a while you'll get those fumes. When they burn tires down there, it's terrible, you get the fumes right into your house. You can't breathe. I've got asthma, believe me.

VIII.E. Comment from Anjie Preston: Good evening. My name is Angie Preston [*sic*]. I'm a 20-year East Boston resident, and the first part of the time that I spend in East Boston was in Ground Zero, also known as Jeffries Point. The fumes in Jeffries Point on any given day, depending on the wind direction, can be overbearing for anybody of any age, much less the senior population which predominates that area of town.

Response to Comments VIII.A – VII.E: Recreational use of waters contaminated with microbial contamination can result in human health problems such as sore throat, gastroenteritis, or even meningitis or encephalitis (Cabelli, 1983; USPEA, 1986; Cabelli, 1989; Haile, 1996; Pruss, 1998). As a result, beach water quality is regulated to protect public health. In Massachusetts, bathing beach water quality is regulated by the Massachusetts Department of Public Health (MDPH) under Massachusetts General Law (MGL) Chapter (C) 111, § Section (S)5 and regulations cited as 105 Code of Massachusetts Regulations (CMR) 445.000: Minimum Standards for Bathing Beaches (State Sanitary Code, Chapter VII; Appendix A and B). All public and semi-public (e.g., campgrounds, motels) bathing beaches in Massachusetts must be monitored for bacterial and sometimes other types of contamination during the bathing season. The bathing beach season in Massachusetts runs from as early as Memorial Day in some areas, through Labor Day during most years (Massachusetts Department of Public Health http://mass.digitalhealthdepartment.com/public_21/ar2004.pdf).

Information on the toxins can be found on the Agency for Toxics Substances and Disease Registry (ATSDR) website using ToxFAQs at the website listed below. The ATSDR ToxFAQs™ is a series of summaries about hazardous substances developed by the ATSDR Division of Toxicology. Information for this series is excerpted from the ATSDR Toxicological Profiles and Public Health Statements. Each fact sheet serves as a quick and easy to understand guide. Answers are provided to the most frequently asked questions (FAQs) about exposure to hazardous substances and the effects of exposure on human health (http://www.atsdr.cdc.gov/toxfaq.html#bookmark05).

The permit addresses potential beach contaminants and toxins through outfall monitoring requirements and requirements to develop BMPs. For example, the permit requires development of BMPs for identifying and reducing potential sources of bacteria – which could reach beaches – by removal of illicit connections. Additionally the permit requires development of a runway/perimeter outfall sampling plan which requires sampling of a representative 15% of the runway/perimeter outfalls – discharge that could reach beaches.

Comments concerning air emissions are not relevant to this permit. The NPDES permit for Logan airport regulates waste water discharges, not air emissions. The Clean Air Act governs air quality issues at Logan Airport. The Massachusetts State Implementation Plan (SIP) promulgated pursuant to and in compliance with the CAA, also governs air quality issues at the airport.

Change to permit: none.

IX. NEW CONSTRUCTION

IX.A. Comment from Nick Delvento: I just want to make sure I got all my points in. As well as will any additional drainage structures or drainage from new construction be added to this system coming out on the East Boston/Winthrop side? The proposed center field taxiway, the new runway that's going in, although that's on the other side, will these be automatically added into this permit or will new permitting be required for this additional paved area? Thank you.

Response to Comment IX.A: The permit was written to take account of the change of drainage from the construction of Runway 14/32. Page 7 of the Fact Sheet, Part II.B.2., states that "the drainage areas somewhat change at A-41, A-42, A-43, and A-44 due to the construction of Logan Runway 14/32. The new areas being drained after construction are designated as PA-41, PA-42, PA-43, and PA-44 on Figure 3 – Drainage after Construction." Although the drainage areas will change slightly due to addition of impervious area, the outfall locations will remain the same. Therefore, a modification to this permit to incorporate this runway construction will not be necessary.

In the event of new construction activities at Logan, the SWPPP must be updated to be consistent with any change which could impact the Plan, such as change in land use. Part I.B.3 of the permit requires Massport and the Co-Permittees to account for any changes at Logan which could impact the SWPPP and amend the Plan to reflect any changes. However, a *permit* modification is not necessary if there is no change to the outfall locations, all that is necessary is a change to the SWPPP. In the event that construction changes the current outfall locations or creates additional outfalls, the permit must be modified in accordance with 40 C.F.R. § 122.62.

Change to permit: none.

X. CONDITIONS OF SURROUNDING AREAS

X.A. GENERAL CONDITIONS OF SURROUNDING AREAS

X.A.1 Comment from Robert A. DeLeo: As the Massachusetts State Representative for the Town of Winthrop, a community of 18,000 people who are in some locations separated by less than 800 feet of water from Logan Airport runways, I offer these comments on Massport's application for a National Pollutant Discharge Elimination System Permit. The quality of life of my neighbors in Winthrop is directly related to the health of the waters surrounding the peninsula. As such, any proposal affecting discharge into Boston Harbor from the airport constitutes a potential threat to our community.

X.A.2 Comment from Ed Deveau (on behalf of Representative Anthony Petruccelli): For the record, my name is Ed Deveau. That's D-e-v-e-a-u. I'm the Chief of Staff for Representative Anthony Petruccelli who was here earlier this evening but had to leave, so he's like me to make a few brief remarks on his behalf, it that's okay. He, along with Senate President Robert Traviliani, plan to send written testimony, but as I just said, he would like me just to make a few brief remarks for the oral record.

The Representative as well, as we all do, have serious concerns regarding Logan Airport as to emissions and other things that affect our lives in East Boston and Winthrop. Another one clearly that's being brought up tonight is water quality. It's another issue; it's another issue that we have to deal with in East Boston, and he is very concerned about what role the emissions from the airport play in the – what role the airport emissions will play in the contamination of water regarding Boston Harbor and around the Winthrop area.

Response to Comments X.A.1 – X.A.2: EPA believes that the monitoring requirements, BMP requirements, and the limits established in the permit are sufficient to protect the water quality of Winthrop Bay, Boston Inner Harbor, and Boston Harbor. According to 40 C.F.R. §122.44(d), the permit must limit any pollutant or pollutant parameter (conventional, non-conventional, toxic, and whole effluent toxicity) that is or may be discharged at a level that causes or has the "reasonable potential" to cause or contribute to an excursion above any water quality standard. Where this "reasonable potential" has not been established, or there is insufficient data to make a determination, EPA has incorporated monitoring requirements to determine the impact of the waste water discharge to the receiving waters. The permit also requires the development of BMPs, designed and implemented so as to meet the following water quality based requirements, at a minimum: 1) Any effluent shall not contain materials in concentrations or in combinations which are hazardous or toxic to aquatic life or which would impair the uses designated by the classification of the receiving waters, and 2) The discharge shall not cause or contribute to a violation of a water quality standard.

Change to permit: none.

X.A.3 Comment from Ed Deveau (on behalf of Representative Anthony Petruccelli): What has been in there in years past as families have obviously enjoyed Constitution

Beach and other maritime used in the Jeffries Point area as well as in the Town of Winthrop? What is done when toxins are found in the water?

Response to Comment X.A.3: According to an MWRA report entitled *Results of Intensive Monitoring at Boston Harbor Beaches, 1996-2004*, "Constitution Beach is one of the less contaminated beaches in Boston Harbor, having the lowest geometric mean count for indicator bacteria and the lowest number of samples failing to meet DCR advisory limits after the South Boston beaches."

Information on the accessibility of beaches, including Constitution Beach is available through the Department of Conservation and Recreation (DCR). The flag on the beach is the most accurate indicator of water quality, based on the latest test results available. Additionally, the DCR Beaches Hotline can be reached at 617-626-4972 and information about beach water quality can be found online at the DCR website (http://www.mass.gov/dcr/waterQuality.htm). Furthermore, Constitution Beach is tested daily at three locations (the North Beach, Bathouse (Middle Beach) and the South Beach (Recreation Center) by the DCR with assistance from MWRA. The daily data can be found online at http://www.mwra.state.ma.us/harbor/html/beachdata.htm.

Change to permit: none.

X.A.4 Comment from Public Meeting on 10/5/06: Where does sanitary waste go?

Response to Comment X.A.4: Sanitary waste water from Logan Airport is required to be directed to the MWRA sewer system for subsequent treatment at Deer Island; however, it is expected that illegal sewer connections may exist in the storm water sewer system at Logan. Although the discharge from Logan Airport is not the sole contributor to elevated bacteria levels at Constitution Beach (six BWSC storm drains potentially contaminated with sewage may be a significant source of contamination to the beach), Part I.B.9 of the permit requires a SWPPP for Identifying and Eliminating Potential Sources of Bacteria.

According to the permit, Massport, with the cooperation of the Co-Permittees, must develop and implement a comprehensive plan to identify and eliminate dry and wet weather illicit discharges to its separate storm water sewer system. The plan will focus on the sanitary sewer system as the primary source of contamination. This SWPPP will rely primarily on BMPs such as visual observations of the storm water sewer and sanitary sewer systems, including television inspection of the sanitary sewer system and dye testing of the sewer pipes and building plumbing. The protocol may be modified to address atypical situations such as surcharged pipelines, groundwater or backwater conditions that preclude adequate inspection, or the presence of non-human bacteria sources.

Change to permit: none.

X.A.5 Comment from Public Meeting on 10/5/06: How is ground water being affected by the airport?

Response to Comment X.A.5: Some storm water contaminated with deicers run off the runways and leaches into the soils adjacent to the runways before reaching a storm water catch basin. The contaminated groundwater that does not discharge from a point source into the Boston Harbor is not a subject of this permit. However, some of the groundwater drains into the perimeter and runway storm water drainage system. According to Massport, "[a]irfield runoff flows across the grass infield to catch basins located primarily in areas between the runways and taxiways. The catch basins are connected by underground drain lines leading to a series of outfalls along the perimeter of the airfield which discharges to Boston Harbor. Groundwater also discharges through the drainage system in those areas of the airfield where an under drainage system exists." See *Logan Airside Improvements Planning Project*, Supplemental Draft Environmental Impact Statement/FEIS, pp. 5-56 & 5-57. Therefore, some of the groundwater contaminated with deicer may discharge to Boston Harbor through the perimeter and runway drainage system.

Therefore, as detailed in the requirements for the Water Quality Study to be performed by Massport in Response to Comment V.D.2, the Study shall include an analysis of quantities of deicer used and the concentration of deicer chemicals in direct and indirect surface water discharges [which may include a study of groundwater infiltration into the drainage system and subsequent discharge to the receiving waters]. This deicer application, fate, and transport model should help to better understand groundwater infiltration, but overall, groundwater concerns that do not result in point source discharges should be addressed with MassDEP outside of the context of this permit.

Change to permit: See Response to Comment V.A.1 for addition of Part I.D. of the permit.

X.B. BEACHES

X.B.1 Comment from Pasquale Caruso: And obviously we had a record amount of rainfall so that probably had to do a lot with the pollution of the beach [Constitution Beach]. I know growing up as a kid we used to dig up the clams. I wouldn't even dare – I wouldn't want to dig them up, let alone eat them. And it's just a concern. And unless you're a resident of Winthrop and East Boston, people that don't live around here, they don't really – they don't really understand what we're saying. They might say they do, but unless you live here and you walk to the beach and stuff like that.

X.B.2 Comment from Sal LaMattina: I don't have written comments. My name is Salvatore Lamattina [*sic*]; I'm a Boston City Councilor representing East Boston, the North End and Charlestown. As you see, there's probably 25 residents that came out tonight and you're probably surprised to see us all here tonight, but we have a concern. I'm glad you're here and I'm glad that – I'm looking at this, I see there's a lot of protections for us. I hope there's a lot of protections for us. But we're here and we have

concerns regards to Constitution Beach [*sic*]. As you're aware, I believe the beach [Constitution Beach] was closed, they has high levels of bacteria over 20 days this summer, the highest in the area where all the beaches are. Our concern is the discharge from Logan Airport…And we also want to know if because of these storm water discharges is that the cause of our beaches, our beach being closed more than any other beach in this area? So, that's my concern, and I think that's a lot of people that are here tonight their concern. So thank you for the opportunity and I hope to get an answer from you…Thank you.

Response to Comments X.B.1 – X.B.2: According to an MWRA report entitled *Results of Intensive Monitoring at Boston Harbor Beaches, 1996-2004*, "Constitution Beach is one of the less contaminated beaches in Boston Harbor, having the lowest geometric mean count for indicator bacteria and the lowest number of samples failing to meet DCR advisory limits after the South Boston beaches."

However, an MWRA report entitled *Results of Intensive Monitoring at Boston Harbor Beaches, 1996-2004*, sites six storm drains that discharge near or onto the beach, with pipes not visible above the water line, as possible pollution sources at Constitution Beach. In the past, storm drains have been identified as being possibly contaminated with sewage[62], which may be a significant source of contamination to the beach. These storm drains are from the surrounding neighborhoods, rather than from Logan Airport.

Therefore, the discharge from Logan Airport is not the sole contributor to elevated bacteria levels at Constitution Beach. However, the permit specifically addresses in Part I.B.9 the Development of a SWPPP Plan for Identifying and Reducing Potential Sources of Bacteria.

According to the permit, Massport, with the cooperation of the Co-Permittees, will develop and implement a comprehensive plan to identify and eliminate dry and wet weather illicit discharges to its separate storm water sewer system. The plan will focus on the sanitary sewer system as the primary source of contamination. The plan will rely primarily on best management practices of visual observation of the storm water sewer and sanitary sewer systems including television inspection of the sanitary sewer system and dye testing of the sewer pipes and building plumbing. The protocol may be modified to address atypical situations such as surcharged pipelines, groundwater or backwater conditions that preclude adequate inspection, or the presence of non-human bacteria sources.

Changes to permit: none.

X.C. BELLE ISLE MARSH

62 Boston Water and Sewer Commission. 1993. Stormwater Permit Application, Part 2, May 17, 1993. Boston: Rizzo Associates.

X.C.1 Comment from Nick Delvento: Winthrop Harbor feeds not only Constitution Beach area, it also feeds Belle Isle Marsh. If you look at the map, you'll see there's a kind of choke point around two of the cans where – I can do it from a navigational standpoint – where – off the Court Road section of Winthrop. All this water that's coming out of these outflows is going through this choke point. We're highly concerned of how much of this water is actually being retained in the marsh and the lower Winthrop Harbor as opposed to actually getting out to sea…Also sampling, has any sampling ever been done up in the Belle Isle Marsh area? It is an estuary.

Response to Comment X.C.1: Although there is not a DCR sampling location at Belle Isle Marsh, there is a sampling location at Constitution beach. Daily bacterial data, organized by beach and year from three DCR sampling locations at Constitution Beach, can be found online at http://www.mwra.state.ma.us/harbor/html/beachdata.htm. This information is from daily testing of Constitution Beach at three locations (the North Beach, Bathouse (Middle Beach) and the South Beach (Recreation Center) by DCR with assistance from MWRA.

EPA believes that the monitoring of the main outfalls and 15% of the 44 runway/perimeter outfalls will serve to characterize the actual discharge from Logan, more so than monitoring at Belle Isle Marsh. EPA expects that the concentration of pollutants in the discharge from Logan would be more concentrated at the outfalls than at Belle Isle Marsh, after the discharge has been diluted with water from the surrounding harbor.

Change to permit: none.

X.D. SEDIMENTATION

X.D.1 Comment from Nick Delvento: I haven't seen any historical data, I'm sure it exists, or if it doesn't, there may be a reason for it, of sedimentation testing of the soil in the channel, in the Federal Channel as well as in the flats off the airport, the flats off of Court Road, the mussel flats, call them Femilary's Reef, but in the entire area behind the Cottage Park Yacht Club and the Pleasant Park Yacht Club…but there is soil there, if there's any sedimentation, if there's any contaminants, there's over 20 years of outfall, either it's clean and not settling on the bottom, or there's contamination. And the compounds we're talking about are pretty easy to track; it's not residential waste. We'll know right away if this is tested if it's coming from the airport or if it's not.

Response to Comment X.D.1: This comment raises concerns for sedimentation and related contamination in the waters around Logan Airport. U.S. Geological Survey (USGS) studies have documented toxic levels of metal contaminants in Boston Harbor sediments. At least 50 percent of the surface sediment samples taken from Boston Harbor have concentrations that exceed NOAA's lowest effects-based toxicity thresholds for 6 of the 14 metals having sufficient analyses. Mercury (Hg) is potentially the most serious contaminant since nearly all the surface samples in the harbor have concentrations higher than NOAA's screening threshold. Lead (Pb) concentrations also exceed minimum

threshold levels, but the contamination is neither as widespread nor as severe. Contamination may not be restricted to surface layers, but virtually all sediment layers near the top have much higher concentration levels of all metals than do the deeper, pre-industrial layers. This contamination has resulted from a variety of sources over many decades, and addressing it is beyond the scope of this permit. However, the permit is written to ensure that permitted discharges from the Airport do not have a reasonable potential to cause or contribute to an excursion above water quality standards. For example, the BMPs to be developed pursuant to the SWPPP must be designed and implemented to meet water quality standards as discussed in Response to Comment IV.A.14-15.

The permit requires WET testing, which includes a requirement for testing the chemistry of the sample, including the presence of metals. This data will be analyzed during future permit re-issuance to determine the need, if any, to develop effluent limitations for metals.

Change to permit: none.

XI. BMP Plan

XI.A. Comments related to General BMP Concerns

XI.A.1 Comment from MA Riverways: The Fact Sheet noted the unused acreage within the drainage area of outfall 005 is being used for storage of concrete materials associated with the ongoing construction. At any time are soils, construction/demolition debris or other materials stored at this location with the potential to pose a water quality threat?

Response to Comment XI.A.1: Part I.A.5 of the permit requires quarterly monitoring for TSS at Outfall 005 during wet weather. This monitoring requirement will require the permittee to record the level of TSS in the discharge from Outfall 005, which could be elevated as a result of exposure of storm water to construction or demolition debris. According to 40 C.F.R. §122.44(d), the permit must limit any pollutant or pollutant parameter (conventional, non-conventional, toxic, and whole effluent toxicity) that is or may be discharged at a level that causes or has the "reasonable potential" to cause or contribute to an excursion above any water quality standard. Upon permit renewal or through a permit modification, if monitoring records indicate that the levels of TSS discharged have “reasonable potential” to cause or contribute to an excursion above water quality standards, action could be taken to set an effluent limit for TSS in the discharge.

Change to permit: none.

XI.A.2 Comment from Massport on § I.B.1 Best Management Practices Plan, BMP Plan Development (Pg. 21): In lieu of the term "BMP Plan," Massport requests that EPA refer to a "Storm Water Pollution Prevention Plan (SWPPP)." This terminology is consistent with EPA guidance documents on SWPPP development. The term "Best

Management Practices" will be activity specific. For example, multiple BMPs may be needed to address reducing fuel and oil sources in the storm water (Aircraft maintenance; vehicle and ground service vehicle maintenance; fueling). To avoid confusion in this letter, the SWPPP/BMPs will be referred to as the "storm water plan" in the remaining comments.

XI.A.3 Comment from Delta: In order to be consistent with EPA guidance documents, Delta requests that the term "BMP Plan" be substituted with the term "Storm Water Pollution Prevention Plan (SWPPP)." If this change is made, the term "Best Management Practices" can be used to refer to specific activities. For example, multiple BMPs may be needed to address reducing fuel and oil sources in the storm water (aircraft maintenance; vehicle and ground service vehicle maintenance;· fueling) and separate BMPs may be required to address runway and aircraft deicing during wet and dry events. Delta also suggests that the terms "BMP" and "SWPPP" collectively can be referred to as the "storm water plan."

Response to Comment XI.A.2 – XI.A.3: Some commenters appeared to be confused or concerned by the use of the term "Best Management Practices Plan" versus a more commonly used term for a plan for controlling pollutants in storm water, a Storm Water Pollution Prevention Plan (SWPPP). For example, the MSGP-2000 uses the term SWPPP, not BMP Plan. A SWPPP is meant to be used to develop best management practices. Therefore, EPA has replaced the term "Best Management Practice Plan (BMPP)" with the term "Storm Water Pollution Prevention Plan (SWPPP)" throughout the permit in order to eliminate confusion.

The term "Best Management Practices (BMPs)" shall refer to activity specific requirements to be developed pursuant to the SWPPP. Throughout the Permit, various occurrences of "Best Management Practices Plan" have been replaced with "Storm Water Pollution Prevention Plan" and "BMP Plan" has been replaced with "SWPPP"

Change to permit: Throughout the Permit, replace "Best Management Practices Plan" with "Storm Water Pollution Prevention Plan" and "BMPP" with "SWPPP."

XI.A.4 Comment from AirTran Airways: Page 23, item 4, states "the BMP Plan for Mass Port and the Co-Permittees should address all sources of pollutants at or near their locations of operation that have the potential to drain to the storm water sewer system including, but not limited to, where (12) food or food wastes are stored that potentially attract birds and animals, and (13) birds flock." With regards to birds, it is presumed items 12 & 13 pose identical environmental concerns.

Response to Comment XI.A.4: EPA agrees that the items listed pose similar environmental concerns. However, the environmental concerns regarding the areas where food and food wastes are stored with the potential to attract birds are not necessarily exactly the same as those regarding the areas where birds are known to flock. Separate strategies for these areas may be necessary to control the drainage of potential pollutants to the storm water sewer system. Thus, these items are listed separately in the

permit, as they may need to be addressed with separate BMPs developed pursuant to the SWPPP.

For clarification purposes, "should" has been replaced with "shall" to emphasize the mandatory nature of the development of BMPs to address the listed sources of pollutants.

Change to permit: None in response to this comment. However, for clarification purposes, "should" has been replaced with "shall" in Part I.B.4 of the permit.

XI.B Comments related to Timeline for BMP Implementation

XI.B.1 Comment from Massport on § I.B.1 Best Management Practices Plan, BMP Plan Development (Pg. 21): Massport requests 90 days to develop the storm water plan, exclusive of the DAC BMP plan. Sixty days is insufficient time to develop a comprehensive storm water plan that will meet the requirements of this section.

XI.B.2 Comment from Delta: Delta believes that EPA's 60 day timeframe included in this condition is an insufficient amount of time to develop a SWPPP that is comprehensive, meets the requirements of this section, and is satisfactory to all co-permittees. In order to develop the SWPPP, there will need to be enough time for several coordination meetings to be held with the co-permittees to ensure that the final plan is mutually acceptable to all parties. In the past, EPA has provided a total of 270 days for development of SWPPPs and associated programs in the Multi-Sector General Permit. Delta recommends that EPA revise this time frame to allow for a minimum of 120 days to allow MassPort, Delta, and the numerous other copermittees to address the large number of new conditions in this permit and develop the SWPPP for Logan.

XI.B.3 Comment from United Airlines: Timelines for plan preparations and implementation are unnecessarily aggressive and unrealistic**.** The Fact Sheet does not provide any rationale for the aggressive and unattainable schedules. United suggests a revised schedule for the BMP Plans. There should be ninety (90) days for Massport to prepare its BMP Plan, then Co-Permittees shall then have ninety (90) days to prepare their BMP Plans. There shall be a subsequent six (6) month period for implementation of the BMP Plans.

XI.B.4 Comment from Massport on § I.B.2 Best Management Practices Plan, Co-Permittees & Other Tenants (Pgs. 21-22): Massport requests 90 days from the time Massport submits the airport-wide plan for the Co-Permittees to develop their storm water plans. The requirement for Co-Permittees to develop a comprehensive plan within 60 days of the airport-wide plan does not allow adequate time to review the airport-wide plan and prepare a storm water plan that meets the requirements of the Draft Permit.

XI.B.5 Comment from Delta on § I.B.2: Delta believes that the time period allowed in the Draft Permit for co-permittees to develop BMP Plans consistent with the airport's SWPPP is an insufficient amount of time to allow for development of a comprehensive plan. This time period does not allow adequate time to review the airport-wide plan or

prepare our own plan that is consistent and meets the requirements of the permit. In developing their specific plans, co-permittees will need to verify the identification and implementation of measures to minimize and control pollutants in storm water, particularly regarding DAC applied to aircraft, as well as to develop management practices that address containment, mitigation, and cleanup activities on our leasehold. This cannot be done in the time period currently allowed in the Draft Permit. Consistent with comments above and EPA's past practice with Multi-Sector General Permits, Delta requests 120 days from EPA's approval of Massport's SWPPP to develop a responsive and consistent BMP plan.

XI.B.6 Comment from Continental Airlines: Pg. 22 sec. B.2 = Continental Airlines feels more time may be needed for airport tenants to review the Massport BMP plan before developing their own. To maintain accuracy and consistency, a 120 to 180-day time frame after the approval of the Massport BMP plan would be more effective.

XI.B.7 Comment from JetBlue Airways: Not only are effluent limitation guidelines necessary to develop and implement an effective Best Management Practices Plan that will address and control pollutants from entering the storm drains, but additional time is needed to develop a Best Management Practices Plan in light of the effluent guidelines. If EPA insists, however, on requiring a Plan under the permit, 120 days (60 days following the development of the Massport BMP plan) is inadequate and we request at least 6 months to develop such a plan.

XI.B.8 Comment from Swissport (RECEIVED LATE): Page 22, Section B.2.: Swissport comments that more time should be given to the tenants to review the MASSPORT BMP plan and develop and implement their own. 120 days may not be adequate time to review and develop a BMP plan consistent with the MASSPORT plan. A 120-day timeframe from the approval of the MASSPORT BMP plan would be adequate.

XI.B.9 Comment from AirTran Airways: Page 22, item 2, states "each co-permittee shall develop a BMP Plan that is consistent with Mass Port BMP Plan within 120-days from the effective date of the final permit." Under draft permit requirements, co-permittees will have 60-days to review Mass Port plan and develop plan that meets of exceeds permit requirements. It is suggested, that EPA extend plan development time line to 180-days.

XI.B.10 Comment from Northwest Airlines: § I.B.2 (pgs. 21-22). Each Co-Permittee shall develop a BMP Plan that is consistent with the Massport BMP Plan within 120 days from the effective date of the final Permit. Northwest Airlines believes that the requirement to develop a comprehensive BMP Plan within 120 days from the permit's effective date (i.e., 60 days following the development of the Massport BMP Plan) does not allow adequate time to review the airport-wide plan or prepare our own plan that is consistent and meets the requirements of the Permit. In order to ensure the identification and implementation of measures that minimize and control pollutants in storm water, particularly deicing and anti-icing chemicals applied to aircraft, as well as to develop

management practices that address containment, mitigation, and cleanup activities on our leasehold, additional time is necessary. A period of 150 to 180 days from the effective date of the final Permit (i.e., 90 to 120 days after Massport's BMP Plan is submitted), is a more realistic time frame to develop a responsive and consistent BMP Plan.

Response to Comment XI.B.1 – XI.B.10: The permit has been changed in response to the above comments to allow Massport 90 days from the effective date of the permit to develop the SWPPP and the Co-Permittees an additional 90 days following this for development of their own SWPPP, consistent with Massport's SWPPP plan. To reflect this, the permit has been changed as follows:

In Part I.B.1 of the permit, "Massport shall complete the BMP Plan and distribute the BMP Plan to the Co-Permittees within 60 days from the effective date of the final Permit" has been replaced with "Massport shall complete the SWPPP and distribute the SWPPP to the Co-Permittees **within 90 days from the effective date of the final Permit**."

In Part I.B.2 of the permit, "Each Co-Permittee shall develop a BMP Plan that is consistent with the Massport BMP Plan **within 120 days from the effective date of the final Permit**" has been replaced with "Each Co-Permittee shall develop a SWPPP that is consistent with the Massport SWPPP, and which meets the CWA standards set out in Part I.B.1 of the permit, above, **within 180 days from the effective date of the final Permit.**"

Additionally, the timeline for development of SOPs for fueling aircraft as a requirement of the SWPPP, in Part I.B.10.f of the permit, has been extended from 120 days to 180 days, to be consistent with the timeline for development of the SWPPP.

Change to permit: Changes to Part I.B.1 and I.B.2 (see above). Replace"120 days" in Part I.B.10.f with "180 days." See Response to Comment V.B.4 – V.B.7 for addition of the phrase, "which meets CWA standards set out in Part I.B.1 of the permit, above."

XI.B.11 Comment from Massport on § I.B.2 Best Management Practices Plan, Co-Permittees & Other Tenants (Pgs. 21-22): The 30-day notice requirement for replacement Co-Permittees is too short. Massport will not be given more than 30 days advance notice that a tenant is leaving the Airport. Moreover, Massport will not always be able to provide EPA with notice of new tenant 30 days before the tenant begins operations. Massport requests that EPA modify the final sentence of the fourth paragraph of § I.B.2 as follows:

> The Massport notification to EPA shall be submitted at least 60 days after a new tenant begins operations or an existing Co-Permittee ceases operations. The notification shall include a revised Attachment C and a signed copy of the SWCPA for all new CoPermittees.

Response to Comment XI.B.11: Part I.B.2 of the draft permit required that "The Massport notification to EPA shall be submitted at least 30 days prior to the date the new Co-Permittee plans to operate or an existing Co-Permittee plans to cease operating at Logan and shall include a revised Attachment C and a signed copy of the SWCPA for all new Co-Permittees."

EPA understands that Massport may not be given 30 days advanced notice of a new tenant prior to beginning operations; however, prior to the tenant beginning operations, Massport shall notify EPA and provide a revised Attachment C and signed copy of the SWCPA. This is consistent with the NPDES regulatory requirement to seek coverage under a NPDES permit prior to discharge. Any facility that discharges without a permit (or coverage under a permit as a Co-Permittee) would be in violation of the CWA prohibition against discharging without a NPDES permit.

Additionally, although Massport may not be given 30 days advanced notice that a tenant is leaving Logan, Massport should be able to notify EPA within 30 days of the tenant leaving. Although Massport suggested 60 days instead of 30 days, EPA believes 30 days should be sufficient time after an existing Co-Permittee ceases operation for Massport to notify EPA.

Therefore, Part I.B.2 of the permit has been changed to require that "The Massport notification to EPA shall be submitted prior to the date a new Co-Permittee begins operating and no more than 30 days following when an existing Co-Permittee ceases operating at Logan and shall include a revised Attachment C and a signed copy of the SWCPA for each new Co-Permittee."

Additionally, Part I.B.2 of the draft permit stated, "Massport shall require any new Co-Permittee to develop a BMP Plan consistent with this final Permit." The final permit has been changed to state, "Massport shall require any new Co-Permittee to develop a SWPPP consistent with its SWPPP and which meets the requirements to this final permit within 90 days of submission of the SWCPA." This ensures development of a SWPPP in a timely manner by new Co-Permittees, consistent with the amount of time granted to the original Co-Permittees following submission of Massport's SWPPP.

Change to permit: Two changes to Part I.B.2 of the permit as follows, "The Massport notification to EPA shall be submitted prior to the date a new Co-Permittee begins operating and no more than 30 days following when an existing Co-Permittee ceases operating at Logan and shall include a revised Attachment C and a signed copy of the SWCPA for each new Co-Permittee." and ""Massport shall require any new Co-Permittee to develop a SWPPP consistent with its SWPPP and which meets the requirements of this final permit within 90 days of submission of the SWCPA."

XI.C. Comments related to Co-Permittees and the BMP Plan

XI.C.1 Comment from Massport on § I.B.2 Best Management Practices Plan, Co-Permittees & Other Tenants (Pgs. 21-22): Massport requests a clarification that only

tenants, and not all contractors, are required to become Co-Permittees under the permit *(see* 60 FR 50998 (September 29, 1995) (explaining that tenants, such as airlines and fixed based operators, must either have their own permit or be a CoPermittee). Many contractors are transient and their activities are best regulated contractually by Massport or Co-Permittees, who bear the ultimate responsibility for compliance. To make this clarification, Massport requests that EPA remove the first sentence in § 1.B.2 and replace it with the following:

> Many tenants, such as airlines and fixed-based operators, operating at Logan have been named as "Co-Permitees" due to the storm water discharges associated with their industrial activities.

Massport further requests that EPA replace the word "company" with the word "tenant" throughout the first paragraph of § 1.B.2.

XI.C.2 Comment from AirTran Airways: Page 21, item 2, states, "a co-permittee is a permittee that is only responsible for permit conditions relating to the discharges for which it is an operator as provided at 40 CFR 122.26(b)(1)." With regards to air carriers that outsource DAC and fueling operations, it is presumed the service provider is the operator, as defined by 40 CFR 122.26(b)(1).

Response to Comment XI.C.1 – XI.C.2: Part I.B.2 of the permit states, "A Co-Permittee is a permittee that is only responsible for permit conditions relating to the discharges for which it is an operator as provided at 40 CFR §122.26(b)(1). A company meets the definition of a Co-Permittee if the company performs industrial activities at an air transportation facility, such as Logan International Airport (Logan), classified under Standard Industrial Classification (SIC) 45 that have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations (see 40 C.F.R. 122.26(b)(14)(viii)). Furthermore, a Co-Permittee includes a company that performs industrial activities at an air transportation facility as defined in the NPDES Storm Water Multi-Sector General Permit for Industrial Activities (see FR 64745, Oct. 30, 2000 and 70 FR 72116, Dec. 1, 2005). "

EPA is surprised that Massport raised concerns regarding inclusion of contractors as Co-Permittees since EPA worked with Massport to develop the list of potential Co-Permittees, which includes contractors as well as tenants. For example, Massport supplied the contact information for ASTAR, a contractor that does work for DHL, to EPA as a potential Co-Permittee. ASTAR signed the Logan Storm Water Co-Permittee Application (SWCPA), verifying that they perform vehicle maintenance/aircraft maintenance including servicing, repairing, or maintaining aircraft and ground vehicles, and equipment cleaning and maintenance (including vehicle and equipment rehabilitation mechanical repairs, painting, fueling, and lubrication) (see Response to Comment XII.E). ASTAR Air Cargo, Inc. has been added to the permit in response.

According to Part I.B.2 of the permit, a Co-Permittee is "a company that performs industrial activities at an airport transportation facility." This is consistent with CWA

requirements that storm waters from industrial activities must be regulated. Therefore, a Co-Permittee may be either a tenant or a contractor. However, EPA would like to clarify that both the tenant and the contractor are not required to be listed as Co-Permittees for the same industrial activity, being conducted for a tenant by a contractor. Any tenant may decide to either 1) be included as a Co-Permittee and regulate their contractors who perform industrial activities, or 2) have all of their contractors who perform industrial activities included as Co-Permittees. However, any tenant that itself performs industrial activities must itself be included as a Co-Permittee.

Change to permit: none.

XI.C.3 Comment from Delta: ***The Draft Permit Addresses Activities Excluded from "Stormwater from Industrial Activities"***

The Draft Permit as written appears to exceed the scope of industrial activities subject to stormwater permitting under 40 C.F.R. § 122.26(b)(14). Section 122 limits the industrial activities subject to stormwater permitting as follows:

Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. **Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (b)(14) (i)-(vii) or (ix)-(xi) of this section are associated with industrial activity** (emphasis added).

EPA has carefully crafted, after public notice and comment rulemaking, the provisions of 40 C.F.R. Section 122.26(b)(14) limiting regulation of transportation facilities. Only certain prescribed areas are within the definition of industrial activity by regulation. However, the Draft Permit and Fact Sheet address other areas and activities excluded from the definition of industrial activity, and EPA has not made an appropriate determination under 40 C.F.R. Section 122.26(a)(v) to include these other activities. As discussed in greater detail in the Specific Comments, below, in some cases Delta would agree that authorization of the discharge from these other activities or areas is appropriate, however, in some instances regulation in inappropriate and infeasible.

Response to Comment XI.C.3: Refer to Response to Comment XI.J.4 regarding scope of the permit.

Change to permit: none.

XI.C.4 Comment from United Airlines: Roles and Responsibilities of Co-Permittees

A third area of significant concern is the way in which the roles of Co-Permittees are addressed in the Draft Permit and/or are left uncertain. United Airlines has three overarching comments on this topic.

First and foremost, the Draft Permit should not set up a relationship by which Massport is given the role of developing and enforcing requirements that do not apply to Massport's own operations. For example, the Draft Permit should not put Massport in the position of dictating BMPs that apply to the application of DAC to aircraft, rather, the Draft Permit should clarify that Massport is developing its own BMPs that impact Massport infrastructure and operations (e.g. airfield deicing). Clearly the copermittees should cooperate in developing their BMPs, however, one party should not dictate over the other.

Secondly, the permit does not clarify that inaction by one permittee will not result in non-compliance of the other Co-Permittees. For example, if Massport were to not meet a deadline for a required action that, in turn, impacted the ability of the tenants to comply with the permit, the tenants should not be penalized (and vice versa). The relationship and liability between Massport and Co-Permittees needs to be clearly stated.

Third, there are numerous places in the Draft Permit in which it is unclear which obligations are Massport's and which are the obligations of the tenants in a cooperative effort with Massport. These provisions should be clarified, and clarified in a way that respects the distinct operational roles of Massport and the tenants. There are several places in which there is a lack of clarity. Below are some of these specific sections along with suggested clarifications:

Fact Sheet: The Fact Sheet does not specifically state who is responsible for developing each of the BMP plans. As discussed above, it should clarify that each Co-Permittee is to develop the BMPs applicable to its own operations.

Page 23 - Section B.5 "Outline of the BMP Plan". There are several sections that do not apply to Co-Permittees or will be redundant, such as receiving water descriptions, rubber removal BMPs, monitoring and sampling plan, etc. We suggest creating an outline specific for Co-Permittees or indicate which sections apply to Co-Permittees.

Page 28 - Section B.7 "BMP Plan for Identifying and Eliminating Deicing and Anti-icing Sources". It is not clear if EPA seeking one DAC BMP plan or separate DAC BMP plans from the individual Co-Permittees. As is discussed elsewhere in our comments, we believe the preparation of any DAC requirements are premature - other than requiring tenants to continue to utilize procedures they already have in place. Regardless of whether the requirement is one joint DAC BMP Plan or separate plans it must be clarified that the Co-Permittees would incorporate the DAC BMPs *that are specific to its own operations only*. In addition, it should be clear that duplication of effort is not required (e.g., Massport should be responsible for meteorological and runway deicing data and tenants responsible for reporting aircraft application rates).

Page 30 - Section B.8. "Development of Pollution Prevention Plan for Deicing Chemicals". The responsible party is not clearly identified. As is discussed elsewhere in our comments, we believe that preparation of a DAC PPP is premature; however, if this requirement remains, it is important that the Co-Permittees develop those aspects that apply to their own operations.

Page 36 - Section B.10. It is not clear who is responsible for preparing the "BMP Plan for Identifying and Eliminating Fuel and Oil Sources" and/or specific parts of this Plan.

Page 24 - Section B.6 "Details of the BMP Plan". Each sub-section within B.6 needs clarification on which sections belong in which plan (i.e., Massport and/or tenant).

Several items are applicable only to Massport:

Page 24 – Section B.6.c – map illustrating location of outfalls
Page 25 – Section B.6.d.i – topographic map
Page 25 – Section B.6.d.ii – runoff coefficient
Page 26 – Section B.6.d.vii – summary of sampling data
Page 27 – Section B.6.e.iii – storm water drainage system maintenance
Page 27 – Section B.6.e.vi – storm water management evaluation
Page 27 – Section B.6.e.vii – sediment and erosion prevention

Visual inspection of leased property and equipment should be listed as tenant responsibility. See Page 28 – Section B.6.e.ix.

XI.C.5 Comment from Massport on § I.B.3 Best Management Practices Plan - BMP Plan Certification (Pgs. 22-23): Massport requests a clarification of the respective roles of Mass port, the Co-Permittees and EPA in the development, maintenance and enforcement of the storm water plan. Massport suggests the following permit language:

> BMP Plan Certification: Massport and the Co-Permittees shall maintain, update and assure the proper implementation of their SWPPP. Massport and the Co-Permittees shall account for any changes that occur at Logan that could impact their SWPPP through amendments to their SWPPP. Massport and the Co-Permittees shall each provide annual reports that include the proper certification to EPA and the MassDEP documenting that the previous year's inspections and maintenance activities were conducted, results recorded, records maintained and a certification of compliance with the SWPPP. The report shall be signed in accordance with the requirements in 40 CFR § 122.22. The CoPermittees shall provide their reports to Massport within 90 days of the annual anniversary of the effective date of the permit. Massport will send EPA and MassDEP copies of the received Co-Permittee reports, along with Massport's report, within 120 days of the annual anniversary of the effective date of the permit.

If EPA discovers any deficiencies in a Co-Permittee's plan or performance, EPA, not Massport, should initiate enforcement action against the Co-Permittee. This would be the most effective enforcement approach and is consistent with one of the key reasons, and Massport's primary reason for originally proposing, to include Co-Permittees in NPDES

permits, which is to make the tenant "responsible for permit conditions relating to the discharge for which it is [the] operator" (40 C.F.R. 1 22.26(b)(1)).

XI.C.6 Comment from Massport on § I.B.3 Best Management Practices Plan - BMP Plan Certification (Pgs. 22-23): To the extent that the permit retains requirements for Massport to maintain, update, certify, or enforce the storm water plans of the Co-Permittees, Massport requests the legal justification for these requirements and an explanation of why Massport, and not the CoPermittees and EPA, should assume these burdens.

Response to Comments XI.C.4 – XI.C.6: The permit has been revised to make some clarifications regarding the responsibilities of Massport and the Co-Permittees, although without adopting all of the suggestions made by Massport and United. In particular, permit Part I.B.3 has been revised to more clearly specify that with respect to the SWPPP, Massport is responsible for its own activities, each Co-Permittee is responsible for its own activities, and Massport has the overall responsibility for coordination and oversight.

Requiring coordination and oversight by Massport is legally justified since Massport is the overall owner and operator of the airport facility and the storm water system, and thus is ultimately responsible for the discharges from its storm water sewer system to the waters of the United States. See, e.g., 40 C.F.R. § 122.21(a) (responsibility of any person who discharges or proposes to discharge pollutants to waters of the United States to obtain a permit). The Region's approach is consistent with that specified nationally for stormwater permits. At 60 Fed. Reg. 50804, 51103 (Sept. 29, 1995), EPA HQ recommended the approach that the Region is following of including airport tenants as Co-permittees to "promote[] better coordination" but retaining the airport authority as the entity "ultimately responsible" for all storm water discharges from the airport facility.

Requiring coordination and oversight by Massport is reasonable. There is a need for onsite coordination and Massport is in the best position to provide this. Massport has the authority under its enabling statute (M.G.L. c. 91 App. § 1-3(g)) to establish regulations governing airport tenants, and has in fact issued regulations with respect to their operations. See, e.g., 704 CMR 21.65 (regarding aircraft fuel spill prevention and control); 704 CMR 26.49 (requirements for deicing operations). However, in requiring Massport to play the coordination and oversight role, EPA is not intending that Massport be required generally to develop or dictate the individual Storm Water plans to be developed by the Co-permittees. Rather, Massport's focus should be on ensuring that the Co-permittee plans are consistent with Massport's own overall plan, while placing the basic responsibility for development of each Co-permittee's plan on each Co-permittee. Also, EPA is not necessarily intending that Massport be the entity required to take any necessary enforcement actions against a Co-permittee. Rather, Massport may notify EPA and MassDEP of any observed violations.

EPA is not agreeing to United's request that the permit specify that inaction by one permittee which impacts the ability of another Co-permittee to comply with the permit,

will not result in a finding of non-compliance against the other Co-permittee. The permit already appropriately protects the Co-permittees by specifying in Part I.B.2 that each Co-permittee is "only responsible for permit conditions relating to the discharges for which it is an operator as provided at 40 C.F.R. § 122.26(b)(1)." To go further would inappropriately seek to determine in advance what actions will be appropriate in a variety of different circumstances. Whether a Co-permittee is responsible for violations should be determined based on the facts and circumstances at the time, including for example whether the Co-permittee cooperated with Massport and others and whether it made concerted efforts to comply notwithstanding any problem caused by another permittee.

In response to the comment concerning Part I.B.7, SWPPP for Identifying and Reducing Deicing and Anti-icing Sources, EPA notes that the requirements for deicer in the final permit have been changed to be consistent with language from the MSGP. EPA would like to clarify that each Co-Permittee must develop an individual SWPPP, with BMPs specific to their operations, as discussed above. Duplication of efforts which are covered by Massport's SWPPP is not required in the Co-Permittee's SWPPPs, such as runway deicing performed by Massport. The Co-Permittee is only responsible for developing and following BMPs to control *its own operations*, as previously stated, and is thus not responsible for reporting/controlling operations such as runway deicing that it does not perform.

In response to the comment concerning Part I.B.8 and Part I.B.10, the discussion above clarifies that the Co-Permittees are only responsible for developing and following BMPs to control their own operations. In response to the comments concerning Parts I.B.5 and I.B.6, as discussed above, the Co-Permittee is not required to duplicate efforts already covered by Massport's SWPPP. Therefore, the sub-sections outlined in Part I.B.5 and described in Part I.B.6 which are already covered by Massport's SWPPP are not required to be covered in the Co-Permittee's SWPPP. EPA has left it up to each Co-Permittee to develop a comprehensive SWPPP with specific BMPs applicable to its own individual operations. The Co-Permittees should know in more detail than EPA which sections are applicable to their own operations.

Finally, in response to the comment concerning Part B.6.e.ix, the SWPPP of the Co-Permittee(s) should designate the responsibility for visual inspections of property and equipment. If there is a case that the tenant and the contractor(s) of the tenant are both listed as Co-Permittees, the SWPPPs of both shall designate the party responsible for visual inspections. In the case that only the tenant is listed as a Co-Permittee, the SWPPP of the tenant should designate the party responsible for visual inspections. In the case that only the contractor(s) are listed as Co-Permittee(s), the SWPPP(s) should designated the party responsible for visual inspections.

Change to permit: Part I.B.3, SWPPP Certification, (formerly the BMP Plan Certification in the draft permit) now reads:

> *Massport shall maintain, update and assure the proper implementation of the SWPPP and all the Co-Permittee's SWPPPs. With respect to the SWPPP, Massport is responsible for its own activities, each Co-Permittee is responsible*

for its own activities, and Massport has the overall responsibility for coordination and oversight. Massport and the Co-Permittees shall account for any changes…

XI.C.7 Comment from AirTran Airways: Page 23, item 4, states, "each co-permittee listed in attachment C shall designate an Environmental Manager responsible for developing the BMP plan(s) required for the co-permittee's facilities and its activities." Suggest changing Environmental Manager to Environmental Coordinator or Environmental Representative, to eliminate potential conflict with each designee's company job title.

Response to Comment XI.C.7: The permit has been changed in accordance with the above comment. Part I.B.4 of the permit has been changed from "Each Co-Permittee listed in Attachment C shall designate an Environmental Manager…" to "Each Co-Permittee listed in Attachment C shall designate an Environmental Representative" in the final permit, to avoid any conflict the previous phrase may have caused with job titles.

Additonally, other references to "Environmental Manager" in the permit have been replaced with "Environmental Representative." This applies both to references of Co-Permittees' as well as to Massport's Environmental Manager, including two additional occurrences at Part I.B.4, two at Part I.B.6.a, one at Part I.B.6.e.i, and two at Part I.B.10.f.

Change to permit: Replace "Environmental Manager" with "Environmental Representative" throughout the permit (see above for specific Parts).

XI.D. Comments related to Safety and BMP Plan

XI.D.1 Comment from Massport on § I.B.4 BEST MANAGEMENT PRACTICES PLAN - BMP Plan Objectives (Pg. 23): The objectives make no mention of the preeminent role of aviation safety. Massport requests the inclusion of the following language: "The goal of meeting these objectives must be met without affecting flight safety, the safety of the traveling public, or aviation employees."

XI.D.2 Comment from Delta on § I.B.4: Delta suggests that EPA should include a reference to flight safety as part of the objectives listed in this condition of the Draft Permit. Considering the impact of deicing on flight safety, Delta believes that flight safety should be included.

Response to Comments XI.D.1 – XI.D.2: EPA agrees that all procedures implemented pursuant to the permit, including the SWPPP plan, should be performed consistently with FAA requirements and considerations of flight safety. Therefore, a provision has been added to the permit to specify that all that procedures implemented by the permit shall be performed consistent with FAA requirements and safety implications as described in Response to Comment V.C.1 – V.C.3.

Change to permit: See Response to Comments V.D.1 – V.C.3 for addition of I.A.14 to the permit.

XI.E. Comments related to Washing and the BMP Plan

XI.E.1 Comment from Massport on § I.B.6.e Best Management Practices Plan - Details of the BMP Plan, Storm Water Management Controls (Pg. 26-28): Subpart iii. As part of normal maintenance, certain tenants may power wash jet bridges at the terminal. Subpart iii implies that wash water associated with this activity would need to be reclaimed and disposed. Massport requests that this section be revised to exclude detergent-free power washing activities that are not associated with airplane or ground support equipment related maintenance.

XI.E.2 Comment from Delta on Section I.B.6.e: Delta requests that EPA clarify this condition to reflect that power washing activities that are not associated with airplane or GSE related maintenance are excluded. Part iii. of this condition seems to imply that wash water, which does not contain chemicals, associated with the power washing of jet bridges at the terminal or building exteriors would need to be reclaimed and disposed. Such wash water has typically been classified as exempt. If these activities are included, there would significant additional costs added to tenants' operations. Therefore, Delta requests that this section be revised to exclude power washing activities that are not associated with airplane or GSE related maintenance.

Response to Comments XI.E.1 – XI.E.2: Part I.B.6.e.iii of the permit has been revised to exclude detergent-free power washing activities that are not associated with airplane or ground support equipment related maintenance from the required reclamation and disposal of all other wash water. This part of the draft permit was not intended to include water not associated with detergents.

Change to permit: The following has been added as the last sentence in Part I.B.6.e.iii of the permit "This section of the permit excludes wash water from detergent-free power washing activities that are not associated with airplane or ground support equipment related maintenance."

XI.F. Comments related to Spills and the BMP Plan

XI.F.1 Comment from Ron Hardaway: Also, now, if you have a crash or you have an emergency and you dump a bunch of foam out there, what procedures take effect, because that – in the other areas, that spill goes directly into the bay and doesn't go through the treated systems, as I understand. Thank you.

XI.F.2 Comment from Public Meeting on 10/5/06: What happens when there is a spill?

Response to Comments XI.F.1 – XI.F.2: Massport must include documentation of all spills that occur at the facility in the SWPPP records, which shall be maintained for at least six years, as stated in Part I.B.6.e.x of the permit, Recordkeeping and Internal Reporting Procedures. Massport is required to report major spills, as described below.

According to Part I.B.6.e.v of the permit, Spill Prevention and Response Procedure, the potential for spills to enter the storm water drainage system must be eliminated whenever feasible. Where appropriate, specific material handling procedures, storage requirements, and procedures for cleaning up spills must be identified in the SWPPP and made available to the appropriate personnel. The nearby storm water discharges shall be tested for pollutants contained in the material spilled, in the event that the spill has reached the storm water drain, within 24 hours from the spill and as directed by the EPA or the MassDEP during the clean up.

In regards to deicing, Part I.B.7 of the final permit does not specifically require reporting of spills of deicer; however, as described in Response to Comment XI.G.16, any spill in excess of 5,000 pounds ethylene glycol is required to be reported under CERCLA (see 40 CFR §302.4).

In regards to fueling, each operator of a piece of fueling equipment shall have a communication device available for the purpose of alerting management of any spill as required in Part I.B.10.f of the permit. Any major spill shall be reported within 2 hours to the proper authorities in accordance with local, state, and federal requirements [this part of the draft permit was modified as described in this response to comment, below]. The Co-Permittee(s) shall immediately alert Massport, after notifying the proper authorities, upon learning of a major spill, as described in part I.B.10.f of the permit. Part I.B.10.g of the permit requires Massport and the Co-Permittees to (i) Describe and implement measures that prevent or minimize the discharge of fuel to the storm sewer/surface waters resulting from fuel servicing activities or other operations conducted in support of the airport fuel system. Consider the following fueling BMPs (or their equivalents): implementing spill and overflow practices (e.g., placing absorptive materials beneath aircraft during fueling operations); using dry cleanup methods; and collecting storm water runoff, (ii) Collect and properly disposed of any spilled fuel, and (iii) Provide and maintain an adequate supply of spill response materials and equipment on all fueling trucks.

Specifically for ASTs, Part I.B.10.c of the permit requires that the SWPPP state at a minimum that all spilled or leaked JET-A (or any fuel) from the ASTs shall be removed from the secondary containment system as quickly as practical and in all cases within 24 hours. The secondary containment system (the bermed area around the ASTs) must be thoroughly cleaned to remove any residual contamination. Additionally, Part I.B.10.e of the permit requires Massport and the Co-Permittees to (vii) provide and maintain an adequate supply of spill response materials and equipment in fueling areas and on fueling trucks and (viii) collect and properly dispose of any spilled fuel.

Part I.B.10.f of the permit has been changed, as noted above, to ensure consistency with local, state, and federal requirements. According to federal requirements at 40 CFR §177.21, "Any person in charge of a vessel or an onshore or offshore facility shall, as soon as he has knowledge of any discharge of a designated hazardous substance from such vessel or facility in quantities equal to or exceeding in any 24-hour period the reportable quantity…immediately notify the appropriate agency of the United States

Government of such discharge." According to state requirements for Massachusetts at 310 CMR 40.0311, "any release of oil and/or hazardous material described in 310 CMR 40.0311(1) through (4) or 310 CMR 40.0311(7) that is indirectly discharged to the environment by means of discharge to a stormwater drainage system" requires notification within no more than two hours.

Therefore, the draft permit has been changed from, "Any major spill shall be reported within 24 hours to the proper authorities in accordance [sic] local, state and federal requirements" to "Any major spill shall be reported within 2 hours to the proper authorities in accordance with local, state, and federal requirements." This change is necessary in order to ensure consistency with different local, state and federal requirements.

Change to permit: Replace "24 hours" with "2 hours" in Part I.B.10.f.

XI.F.3 Comment from Massport on § I.B.6.e Best Management Practices Plan - Details of the BMP Plan, Storm Water Management Controls (Pg. 26-28): Subpart v. Spills at the Airport are addressed aggressively and few reach the storm drains. Massport requests that EPA remove the requirement for testing storm water discharges after every spill and replace it with a requirement that Massport test for pollutants at the appropriate outfall only when the spill has reached a storm water drain.

XI.F.4 Comment from Delta on § I.B.6.e: Delta requests that EPA modify subpart v. to state that pollutants will only be tested if the storm drainage system has been impacted by a release.

Response to Comments XI.F.3 – XI.F.4: Part I.B.6.e.v of the permit has been changed in accordance with the comments from Massport and Delta. The requirement for testing storm water discharges after every spill has been replaced with a requirement for Massport to test for pollutants at the appropriate outfall only when the spill has reached a storm water drain. The phrase "in the event that the spill has reached the storm water drain" has been added to Part I.B.6.e.v of the permit. Additionally, "should" has been replaced with "shall" to emphasize the mandatory nature of the testing requirement. The last sentence now reads, "The nearby storm water discharges shall be tested for pollutants contained in the material spilled, in the event that the spill has reached the storm water drain, within 24 hours from the spill and as directed by the EPA or the MassDEP during the clean up."

Additionally, Part I.B.6.g of the permit requires that the Storm water management controls of the SWPPP be consistent with other plans such as the Spill Prevention Control and Countermeasure (SPCC) plans under Section 311 of the CWA. Section 311 of the CWA addresses pollution from oil and hazardous substance releases, providing EPA and the U.S. Coast Guard with the authority to establish a program for preventing, preparing for, and responding to oil spills that occur in navigable waters of the United States.

Change to permit: Last sentence of Part I.B.6.e.v now reads, "The nearby storm water discharges shall be tested for pollutants contained in the material spilled, in the event that the spill has reached the storm water drain, within 24 hours from the spill and as directed by the EPA or the MassDEP during the clean up."

XI.F.5 Comment from AirTran Airways: Page 27, item 6 e v, states "nearby storm water discharges should be tested for pollutants contained in the material spilled within 24-hours from the spill and as directed by the EPA or the Mass DEP during the clean-up." In the event a co-permittee is responsible for a material spill: it is presumed that Mass Port will obtain required sample(s) and facilitate sample analysis. It is also presumed, the responsible co-permittee will be give the opportunity to collect independent sample(s) and submit collected sample(s) for analysis.

Response to Comment XI.F.5: AirTran is correct in presuming that Massport will obtain the required sample(s) and facilitate sample analysis in the event of a spill since the ultimate discharge is through Massport's storm drain. The following sentence has been added to Part I.B.6.e.v of the permit to clarify that Massport is responsible for the sampling and analysis of the discharge in the event of a spill, "Massport is responsible for the sampling and analysis of the storm drain discharge." However, in the event of a spill, the initial responsibility lies with the responsible party to report the spill to the EPA and MassDEP, and then to also report the spill to Massport. The phrase "after notifying the proper authorities" has been added to clarify this. Part I.B.10.f of the permit, regarding developing BMPs for Fueling Aircraft pursuant to the SWPPP for Identifying and Reducing Discharges from Fuel and Oil Sources, now reads:

> Each operator of a piece of fueling equipment shall have a communication device available for the purpose of alerting management of any spill. Any major spill shall be reported within 2 hours to the proper authorities in accordance local, state and federal requirements.
>
> Additionally, the managers for a Co-Permittee shall immediately alert the Environmental Representative for Massport, after notifying the proper authorities, upon learning of a major spill.

Change to permit: Addition of last sentence to Part I.B.6.e.v to, "Massport is responsible for the sampling and analysis of the storm drain discharge." Addition to Part I.B.10.f of "after notifying the proper authorities" for clarification of spill notification by Co-Permittees.

XI.G. Comments related to Deicing Requirements in BMP Plan

XI.G.1 Comment from Massport on § I.B.6.e Best Management Practices Plan - Details of the BMP Plan, Storm Water Management Controls (Pg. 26-28): Subpart ix. Massport requests that the paragraph be modified to clarify that visual inspection applies to the 7 runway outfalls selected for monitoring and not all 44 runway outfalls.

XI.G.2 Comment from Delta on § I.B.6.e: Delta requests confirmation from EPA that the visual inspection required in subpart ix. of this condition applies to the 7 runway outfalls that are subject to monitoring and not all 44 runway outfalls.

Response to Comments XI.G.1 – XI.G.2: The EPA did not make the change requested by these commenters. Part I.B.6.e.ix of the draft permit was intended to mean that all 44 runway outfalls should be visually inspected annually during a storm water event. The permit language has been changed to clarify this. The permit now states, "Along with the quarterly monitoring at the seven out of 44 outfalls by the runways and perimeter of the airport, the discharge at each of the 44 outfalls shall be inspected annually during wet weather conditions…"

EPA believes it is reasonable to require annual inspection of the discharge at all 44 outfalls during a wet weather event. The permit does not specify that the discharge from each outfall must be inspected during the same wet weather event, thus the 44 outfalls may be inspected during separate wet weather events throughout the course of the year. This requirement is not impractical and should be achievable by Massport over the course of an entire year.

Change to permit: Clarification at Part I.B.6.e.ix. to now read, "Along with the quarterly monitoring at the seven out of 44 outfalls by the runways and perimeter of the airport, the discharge at each of the 44 outfalls shall be inspected annually during wet weather conditions…"

XI.G.3 Comment from Massport on § I.B.7 Best Management Practices Plan - BMP Plan for Identifying and Eliminating Deicing and Anti-Icing Sources and § I.B.8 Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals (Pgs. 29-31): If, after consideration of Massport's alterative proposal, EPA elects to retain portions of §§ I.B.7 or I.B.8, Massport provides comments as follows: [organized by topics throughout Response to Comments document]

Response to Comment XI.G.3: EPA has decided to replace Parts I.B.7 with requirements consistent with the MSGP-2000 and Part I.B.8.a with a requirement to re-evaluate the SWPPP following completion of the Water Quality Study. Refer to Response to Comment V.D.2 for the specific language to replace Parts I.B.7 and I.B.8 of the draft permit. Massport's alternative proposals which are still applicable to these revised parts of the permit have been addressed, as discussed throughout the Response to Comments Document.

Change to permit: See RTC V.D.2 for changes.

XI.G.4 Comment from Massport on § I.B.7 Best Management Practices Plan - BMP Plan for Identifying and Eliminating Deicing and Anti-Icing Sources and § I.B.8 Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals (Pgs. 29-31): It is not feasible to "eliminate" DAC sources at the Airport. Massport requests that EPA remove all references to DAC elimination as a permit goal and replace them with

the appropriate goal of reducing DAC discharges and impacts. The goal should also reflect that any storm water plans and BMPs required by the permit will in no way compromise aviation safety.

XI.G.5 Comment from Delta on § I.B.7: Delta strongly encourages EPA to revise Section I.B.7 because, for safety reasons, it is not possible to eliminate DAC as currently indicated throughout this section of the Draft Permit. It should be clear that the storm water plan and accompanying BMPs will not take steps to compromise airplane safety. The FAA, in requiring deicing and anti-icing for safety, states, "[t]he predominant method to deice airplanes relies on the application of aqueous solutions of freezing point depressant (FPD) fluids. In terms of *deicing* airplanes, other methods have been employed, such as the mechanical removal of certain types of contamination from airplane surfaces. In terms of *anti-icing* airplanes, the only acceptable method continues to rely solely on the application of approved antiicing FPD. Today, all available FPDs are glycol-based products." *FAA Advisory Circular No: 150/5300-14.* Therefore, a plan to eliminate deicing and anti-icing sources is not feasible and is contrary to federal transportation law. Furthermore, the Transportation Research Board of the National Academies is in the process of researching the mechanisms of ice formation, retention, and removal from critical aircraft surfaces to better understand the quantities and timing of deicing fluid application so that both operational safety and environmental protection are assured. EPA should not impose measures that interfere with the FAA's authority on safety or attempt to require measures that have not yet been fully vetted by the Transportation-Research Board. Therefore, Delta requests that any references to "elimination" of these sources, including the title of this section, be removed.

XI.G.6 Comment from US Airways: Section B, paragraph 7, BMP Plan for Identifying and Eliminating Deicing and Anti-icing Sources (page 29 of 43) – A plan for the elimination of deicing sources is not feasible. "The predominant method to deice airplanes relies on the application of aqueous solutions of freezing point depressant (FPD) fluids. In terms of deicing airplanes other methods have been employed, such as the mechanical removal of certain types of contamination from airplane surfaces. In terms of anti-icing airplanes, the only acceptable method continues to rely solely on the application of approved anti-icing FPD. Today, all available FPDs are glycol-based products." **FAA Advisory Circular No. 150/5300-14**

The Transportation Research Board of the National Academies has recognized the need for more research in the mechanisms of ice formation, retention, and removal from critical aircraft surfaces to better understand the quantities and timing of deicing fluid application so that both operational safety and environmental protection are assured. The TRB is advertising a research grant to study (1) a description of the application of currently available procedures and technologies to optimize ADAF use (2) the results of an experiment to validate the effectiveness of promising procedures and technologies (3) a plan for implementation of these promising procedures and technologies and (4) recommendations for further study. Proposals have been received for this project and are under review by the project panel.

US Airways suggest changing the title of this BMP from "Eliminating" to "Reducing" with the understanding that glycol based deicing fluids will likely never be eliminated.

XI.G.7 Comment from Continental Airlines: Pg. 28 sec. 7 = The header should not read "Eliminating Deicing and Anti-icing Sources", but should be written as a "Reduction" BMP plan for stormwater run-off. As to this point, the term "Eliminating" used in reference to deicing chemicals, used throughout the draft permit, should be more appropriately referred to as a "Reduction of" or "Reducing releases to stormwater". To clarify, flight safety can never be compromised, so the focus should be on limiting the release not eliminating the use of deicing chemicals.

Response to Comments XI.G.4 – XI.G.7: Refer to Response to Comment XI.J.1 – XI.J.3, which states that most occurrences of the word "eliminate" have been changed to "reduce." Refer to Response to Comments V.D.2 and V.B.4 – V.B.7, which discuss that Part I.B.7 has been removed from the permit and replaced with language consistent with the MSGP-2000. The new Part I.B.7 is titled "SWPPP for Identifying and Reducing Deicing and Anti-icing Sources" (with the change from BMPP to SWPPP consistent with Response to Comment XI.A.2 – XI.A.3). Also refer to Response to Comment V.C.1 – V.C.3 concerning flight safety.

Change to permit: See Response to Comments listed above.

XI.G.8 Comment from AirTran Airways: Page 29 item b, states "Mass Port and co-permittees shall maintain an inventory of the de-icing chemicals used per day in gallons or pounds with an inventory of the amount used for each activity performed as described in the previous sentence." Page 30, item 7 d (ii), states "Mass Port and Co-permittees that apply deicing chemicals to aircraft shall measure and record temperature, wind speed, rate and type of precipitation, the amount and type of deicing chemicals use on a daily basis, and note whether the deicing chemicals are applied during wet or dry weather." The aforementioned requirements place an unnecessary burden on co-permittees. Weather data can be obtained through local or regional resources. DAC chemical usage can be totaled monthly versus daily, as required by the permit.

In addition, it is presumed that EPA has reviewed the study submitted by Mass Port (1992), which concluded DAC operations posed no material risk to Boston Harbor water quality. If EPA requires additional data collection and analysis to determine the impact of DAC operations on salt water bodies, it is suggested, that data collection responsibilities be reassigned and or revised.

Response to Comment XI.G.8: The recordkeeping requirements for documenting the quantity of deicer used on a daily basis has been changed to be consistent with the MSGP-2000. Refer to Response to Comment V.D.2, which replaces Part I.B.7 with language consistent with the MSGP-2000 and I.B.8 with a requirement to re-evaluate the SWPPP. The final permit requires the total quantity of deicer to be recorded on a monthly basis, which is consistent with AirTran's suggested frequency, as well as with the MSGP-2000 SWPPP language. Other information such as the size of the aircraft

being de-iced is not required by the MSGP-2000, and thus not required by the final permit.

The gathering of weather data is not necessary since Logan has a meteorological weather station. Any future study related to weather can use the data from the records of the weather station.

The information required to be collected concerning deicer, specified in Response to Comment V.D.2, will be used along with the information from the water quality study required in the final permit to establish the potential impact to the receiving waters (see permit Part I.D for the water quality study). Massport shall gather the records of the airlines and others to obtain a total quantity of deicer use at Logan per month to use in conjunction with the water quality study to help determine water quality impact to the receiving waters.

Change to Permit: See Response to Comment V.D.2 for replacement of Part I.B.7 and I.B.8 to be consistent with the MSGP-2000.

XI.G.9 Comment from AirTran Airways: Page 29, item 7 c, states "Mass Port and each co-permittee is required to report spills equal to or exceeding the reportable quantity (RQ) levels specified at 40 CFR 110, 117, and 302 for each de-icing chemical that is released to the storm water drainage system and the environment." DAC operations include the application of de-ice and or anti-ice solution to the aircraft exterior and the subsequent run-off of that solution to the ramp surface. With the aforementioned stated, it is presumed that spills, as used in this context, will not include run-off of de-ice or anti-ice solution from aircraft exteriors, during DAC operations.

Response to Comment XI.G.9: Spills do not include run-off of deicer or anti-icer from aircraft exteriors during normal deicing/anti-icing operations. Refer to Response to Comment III.K concerning the difference between "use" and "spill." Refer to Response to Comment XI.G.16 concerning reporting requirements for spills of deicer.

For general information concerning spills, refer to Response to Comment XI.F.1 – XI.F.2, Response to Comment XI.J.22, and Response to Comment XI.J.23.

Change to Permit: none.

XI.G.10 Comment from Northwest Airlines: § I.B.7 (pgs. 29-30). Aircraft Deicing Operations – Massport and the Co-Permittees that apply deicing chemicals to aircraft shall evaluate, whether excessive application of deicing chemicals occurs and adjust as necessary, consistent with flight safety. Northwest Airlines considers the collection of data on deicing use and environmental conditions specified under this section of the Permit onerous and without context. First and foremost, the development and implementation of approved SOPs for the application of deicing chemicals in dry and wet weather conditions is based on flight safety considerations only. Deicing programs are critical to aviation safety and the FAA carefully regulates the application of deicing

chemicals to ensure flight safety (see 14 CFR § 121.629; FAA Advisory Circular No. 120-60B). The proposed regulations presume that Massport and the Co-Permittees do not already seek to minimize the amount of deicing chemicals applied to aircraft. NWA minimizes the use of deicing chemicals, to the extent that safety allows, by limiting the number of aircraft exposed to heavy storm conditions by moving aircraft to the hangar, reducing flight schedules, and eliminating redundant applications.

The presumption that the runoff of deicing chemicals may be minimized to the storm water drainage system by the implementation of proposed SOPs or other controls is only germane to the type and quantity of data collected and how it will be used by Massport and EPA. It is unclear how this data, whose collection is considered burdensome because it requires daily use rates by aircraft type and number (in addition to other data elements), is tied to intended changes in water quality or other environmental goals of the Permit. Northwest Airlines seeks clarification as to why this data collection effort is mandated, how the data will be used by regulatory authorities, and whether it will (or will not) supplement data sought by Effluent Limitation Guidelines for airline and airport deicing activities. At a minimum, the Permit should be modified to allow Massport to develop a plan to collect and evaluate deicing chemical usage data from the Co-Permittees that is based on monthly, rather than daily use rates.

Response to Comment XI.G.10: The recordkeeping requirements for documenting the quantity of deicer used on a daily basis has been changed to be consistent with the MSGP-2000. Refer to Response to Comment V.D.2, which replaces Part I.B.7 with language consistent with the MSGP-2000. The permit now requires Massport and each Co-Permittee to maintain a record of the types and monthly quantities of deicing chemicals used, instead of the daily use rates previously required in the draft permit.

The proposed permit does not *presume* that Massport and the Co-Permittees do not already seek to minimize the amount of deicing chemicals applied to aircraft. The permit does, however, in line with the MSGP-2000, *require* in Part I.B.7.c that Massport and the Co-Permittees *evaluate* deicer application rates and adjust as necessary to further minimize deicer application, consistent with considerations of flight safety. If such an evaluation shows that Massport and the Co-Permittees already are minimizing the amount of deicing chemicals used, they must document that fact. Additionally, Part I.B.7.e of the permit requires Massport and the Co-Permittees to evaluate the amount of pollutants being discharged from the site through development of BMPs to control or manage contaminated runoff.

Change to Permit: See Response to Comment V.D.2 for replacement of Part I.B.7 and I.B.8 to be consistent with the MSGP-2000.

XI.G.11 Comment from Massport on § I.B.7.b (page 29) [§ I.B.7 – Best Management Practices Plan - BMP Plan for Identifying and Eliminating Deicing and Anti-Icing Sources]: Massport requires clarification of what aspects of "transported" are required. Massport does not believe it is feasible or practical to measure the quantities of aircraft deicer transported from the point of application to other areas of

the airport. This level of inventory control is administratively burdensome and adds little value to reducing or preventing storm water pollution. BMPs can be developed to address proper maintenance and repair of deicing and antiicing vehicles and equipment to reduce and minimize leaks.

Response to Comment XI.G.11: The requirements for the SWPPP for deicer have been changed to be consistent with the MSGP-2000. Refer to Response to Comment V.D.2, which replaces Part I.B.7 with language consistent with the MSGP-2000. Therefore, the requirement for Massport and the Co-Permittees to describe the potential sources of deicing chemicals by the activities performed (such as *transporting* deicing chemicals) that could be released and discharged to the storm water drainage system has been removed from the permit.

Change to Permit: See Response to Comment V.D.2 for replacement of Part I.B.7 and I.B.8 to be consistent with the MSGP-2000.

XI.G.12 Comment from Massport on § I.B.7.b (page 29) [§ I.B.7 - BEST MANAGEMENT PRACTICES PLAN - BMP Plan for Identifying and Eliminating Deicing and Anti-Icing Sources]: Massport also does not believe that the requirement to report DAC use per day and per activity will provide sufficient insights into deicer application that could result in significant reductions in deicer use. Massport requests an explanation of how EPA intends to use this information and requests that EPA work with Massport to develop reporting requirements that will adequately address EPA's informational needs.

Response to Comment XI.G.12: The recordkeeping requirements for documenting the quantity of deicer used on a daily basis has been changed to be consistent with the MSGP-2000. Refer to Response to Comment V.D.2, which replaces Part I.B.7 with language consistent with the MSGP-2000. The final permit requires the total quantity of deicer to be recorded on a monthly basis, which is consistent with Massport's suggested frequency, as well as with the MSGP-2000 SWPPP language.

The information required to be collected concerning deicer, specified in Response to Comment V.D.2, will be used along with the information from the water quality study to establish the potential impact to the water quality of the receiving waters (see Part I.D of the permit for a description of the water quality study). Massport shall gather the records of the airlines and others to obtain a total quantity of deicer used at Logan per month to use in conjunction with the water quality study to help determine water quality impact to the receiving waters.

Change to Permit: See Response to Comment V.D.2 for replacement of Part I.B.7 and I.B.8 to be consistent with the MSGP-2000.

XI.G.13 Comment from US Airways: Section B, paragraph 7.b. BMP Plan for Identifying and Eliminating Deicing and Anti-Icing Sources (page 29 of 43) – The recordkeeping burden of deicing chemicals used per day is problematic. Aircraft may be

deiced by one or more service trucks depending on weather, traffic, and type of aircraft. Interrupting the deicing process to record the amount of fluid will detract from the goal of safety and increase the time necessary to perform the event, resulting in delays. Airline personnel are concentrating on a single task during a winter storm event, the safe operation of ramp and flight activities. Adding another task in a time constrained period does not have sufficient justification.

US Airways request that the permit be modified to require MASSPORT collect and report total DAC usage.

Response to Comment XI.G.13: Refer to Response to Comment XI.G.12, above, concerning the change in the recordkeeping requirements for documenting the quantity of deicer used from daily to monthly.

Massport and the Co-Permittees that store, handle, or apply deicing and/or anti-icing compounds at Logan shall develop a Storm Water Pollution Prevention Plan (SWPPP) for deicing and anti-icing chemicals. The SWPPP shall include BMPs in addition to requirements for collecting and reporting deicer information, as described in Part I.B.7 of the permit. Each Co-Permittee is responsible for collecting and reporting the deicer information from their operations to Massport, as described in Part I.B.7.a.

Change to Permit: See Response to Comment V.D.2 for replacement of Part I.B.7 and I.B.8 to be consistent with the MSGP-2000.

XI.G.14 Comment from United Airlines: Reporting Requirements for Deicing/Anti-icing Application. The Draft Permit reporting requirements of deicing/anti-icing application are strenuous and, given the current EPA deicing effluent guideline initiative to gather this same type of information on a national scale, we believe unnecessary. (*See Page 29 - Section B.7.b. & Page 30 – Section B.7.d.ii.*) These requirements would likely require tenants to establish new recording procedures, purchase new equipment, modify existing operations, and expend additional resources. Both the Draft Permit and the Draft Fact Sheet demonstrates a lack of understanding with regard to the time and resources necessary to maintain compliance with these reporting requirements, specifically the recording of aircraft size, meteorological data collection by Co-Permittees and the 48 hour usage reporting requirement. A rationale for the increased reporting requirement is not provided.

In light of the on-going EPA effort to establish deicing effluent guidelines and the resources the airlines and airports are already dedicating to acquire the needed information for EPA, United recommends that these requirements be reduced such that these reporting requirements involve (1) each Co-Permittee recording the type of deicing fluid applied and providing an *estimate* of the total gallons applied on a monthly basis (to be provided to Massport for collection) and (2) Massport would provide the meteorological information.

Response to Comment XI.G.14: The BMPPP (now SWPPP) for deicer has been changed to be consistent with the MSGP-2000 SWPPP. Refer to Response to Comment V.D.2, which replaces Part I.B.7 with language consistent with the MSGP-2000. Thus, the permit no longer requires recording aircraft size, collecting of meteorological data, or reporting 48 hour usage, which was previously required in the draft permit BMPPP for deicer.

The SWPPP for deicer in the permit requires that each Co-Permittee maintain a record of the types of deicing chemicals (including the Material Safety Data Sheets [MSDS]) used and the monthly quantities, either as measured or, in the absence of metering, as estimated to the best of their knowledge, and provide a copy of the information to Massport. Therefore, in the absence of metering, an estimate of the monthly quantities used is acceptable.

Change to Permit: See Response to Comment V.D.2 for replacement of Part I.B.7 and I.B.8 to be consistent with the MSGP-2000.

XI.G.15 Comment from Massport on § I.B.7.b (page 29) [§ I.B.7 – Best Management Practices Plan - BMP Plan for Identifying and Eliminating Deicing and Anti-Icing Sources]: The requirement for reporting within 48-hours from the end of the day will be difficult to achieve in practice. Monthly reporting of DAC usage (chemical specific/user specific) is sufficient to provide data necessary for SWPPP, BMP and modeling development. Massport requests an explanation of how EPA intends to use this information and requests that, if monthly data will not meet EPA's reasonable informational needs, EPA work with Massport to develop alternative reporting requirements.

Response to Comment XI.G.15: The SWPPP requirements for deicer have been changed to be consistent with the MSGP-2000. Refer to Response to Comment V.D.2, which replaces Part I.B.7 with language consistent with the MSGP-2000. The 48-hour reporting requirement has been replaced with a monthly reporting requirement in the final permit.

Change to Permit: See Response to Comment V.D.2 for replacement of Part I.B.7 and I.B.8 to be consistent with the MSGP-2000.

XI.G.16 Comment from Continental Airlines on I.B.7.c (page 29): Pg. 29 sec. 7.c = This requirement could be significantly modified for Propylene Glycol (PG) use. Currently, PG does not fall specifically into 40 CFR 110-117 & 302. There would be an excessive burden on operating and regulatory staffs if all deicing operations were reported as continuous releases.

Response to Comment XI.G.16: Part VI.E.4.a of the fact sheet states that deicing fluids are mainly comprised of a mixture of propylene glycol and ethylene glycol. Although propylene glycol does not fall specifically into 40 C.F.R. §§ 110-117 & 302, ethylene glycol has a RQ of 5,000 pounds as a hazardous substance under CERCLA. Therefore it

is appropriate to report spills of deicer since it is a mixture of both propylene glycol and ethylene glycol. The part of the permit specifically referred to in the above comment has been changed, along with the entire Part I.B.7 of the permit, to be consistent with the MSGP-2000. See Response to Comment V.D.2, which replaces Part I.B.7 with language consistent with the MSGP-2000. Part I.B.7 in the final permit does not specifically require reporting of deicing chemical spills; however, as stated above, any spill in excess of 5,000 pounds ethylene glycol is required to be reported under CERCLA.

Additionally, EPA would like to clarify that normal deicing operations should not be reported as continuous releases. Such uses are authorized by this permit and are therefore not considered spills. Refer to Response to Comment XI.J.22 for more information concerning continuous releases of deicer.

Change to Permit: See Response to Comment V.D.2 for replacement of Part I.B.7 and I.B.8 to be consistent with the MSGP-2000.

XI.G.17 Comment from Massport on § I.B.7.d (page 29-30) [§ I.B.7 – Best Management Practices Plan - BMP Plan for Identifying and Eliminating Deicing and Anti-Icing Sources]: Massport requests that EPA remove the word "prevent" from this section. Massport is unaware of any method that will completely prevent the release of DAC to the storm water drainage system.

Response to Comment XI.G.17: The requirements for deicer have been changed to be consistent with the MSGP-2000. Refer to Response to Comment V.D.2, which replaces Part I.B.7 with language consistent with the MSGP-2000. The word “prevent” in reference to the release of deicer to the storm water drainage system has been removed from the final permit, consistent with the language from the MSGP-2000. The permit now requires management of runoff to attempt to “control or manage contaminated runoff to reduce the amount of pollutants being discharged from the site” (see Part I.B.7.e of the permit).

Change to Permit: See Response to Comment V.D.2 for replacement of Part I.B.7 to be consistent with the MSGP-2000.

XI.G.18 Comment from AirTran Airways: Page 30, item 8, states “within six months from the effective date of the final permit Mass Port and the co-permittees shall evaluate and recommend a plan to greatly reduce or eliminate the discharge of de-icing chemicals from storm water and the storm water drainage areas.” It is presumed, EPA has reviewed the study submitted by Mass Port (1992) that concluded DAC operations posed no material risk to Boston Harbor water quality. If EPA requires additional data collection and analysis to determine the impact of DAC operations on salt water bodies, it is suggested, that additional analysis be completed before requirements to identify, procure, and install engineering controls are required by this permit.

Response to Comment XI.G.18: The permit requires additional analysis by way of the water quality study. The other information required to be collected by the permit

concerning deicer has been reduced to only that information required by the MSGP-2000. This information, as specified in Response to Comment V.D.2, will be used along with the information from the water quality study to determine the potential impact to the water quality of the receiving waters (see permit Part I.D for a description of the water quality study). Massport shall gather the records of the airlines and others to obtain a total quantity of deicer used at Logan per month to use in conjunction with the water quality study to help determine water quality impact to the receiving waters.

Change to Permit: See Response to Comment V.D.2 for replacement of Part I.B.7 and I.B.8 to be consistent with the MSGP-2000.

XI.G.19 Comment from Massport on § I.B.7.d (page 29-30) [§ I.B.7 – Best Management Practices Plan - BMP Plan for Identifying and Eliminating Deicing and Anti-Icing Sources]: FAA regulations require the development of extensive safety-based SOPs for the application of DAC during deicing events. Massport believes that the Draft Permit's requirement to develop additional SOPs unintentionally conflicts with the FAA requirements. Massport requests that the Draft Permit be modified to delete the requested SOP. If EPA retains this requirement, Massport asks whether EPA performed a cost-benefit analysis to ensure that the SOP requirement is reasonable and conforms to EPA's regulations and guidance for BAT/BCT and the development of BMPs. If so, Massport requests a summary and the documentation of this analysis as well as the results of EPA's analysis.

XI.G.20 Comment from Delta on § I.B.7: Delta recommends that EPA eliminate the requirement in subparagraph d. that the airport and co-permittees develop Standard Operating Procedures (SOPs) to prevent or minimize the release of deicing chemicals to the storm water drainage systems as this requirement conflicts with FAA requirements. The FAA mandates the development of extensive SOPs based on flight-safety considerations only. Therefore, EPA's requirement to develop additional SOPs that "prevent or minimize" the deicing chemicals directly conflicts with the FAA requirement to develop SOPs based on flight-safety. Therefore, Delta requests that EPA delete the requested SOP.

Response to Comments XI.G.19 – XI.G.20: Part I.B.7 of the permit has been replaced to be consistent with the MSGP-2000. Therefore, the permit no longer requires Massport and the Co-Permittees to develop Standard Operating Procedures (SOPs) to prevent or minimize the release of deicing chemicals to the storm water drainage systems. Refer to Response to Comment V.C.4 concerning replacement of the deicer SOP requirement and Response to Comment V.C.1 – V.C.3 concerning FAA requirements and considerations of flight safety. Also, refer to the BAT/BCT analysis as discussed in Response to Comment V.B.4 – V.B.7 and found in Attachment A to this Response to Comments Document.

Change to Permit: See Response to Comment V.D.2 for replacement of Part I.B.7 and I.B.8 to be consistent with the MSGP-2000. See Response to Comment V.C.4 concerning replacement of deicer SOP requirement, Response to Comment V.C.1 – V.C.2 concerning

safety requirements, and Response to Comment V.B.4 – V.B.7 and Attachment A concerning BAT/BCT analysis.

XI.G.21 Comment from Massport on § I.B.7.d (page 29-30) [§ I.B.7 – Best Management Practices Plan - BMP Plan for Identifying and Eliminating Deicing and Anti-Icing Sources]: The data gathering requirements in subparts i and ii pose particularly difficult operational and safety concerns, given the limited resources at the Airport and the need to focus all efforts on ensuring flight safety. Given the large number of variables involved in the deicing process, it is not likely that meaningful conclusions can be drawn from analysis of this type of data. Massport requests an explanation of how EPA intends to use this information, why the information is needed at short intervals and how EPA will overcome the inherent problems in using this type of data to refine the DAC application process.

XI.G.22 Comment from Delta: Delta is concerned with the intense level of data gathering requirements included in subparagraphs d.i. and d.ii. Not only are these requirements burdensome, but they also pose a potential safety issue given the limited resources at the airport whose primary task should be ensuring flight safety, not gathering data that will ultimately not likely provide meaningful information. Subparagraphs d.i. and d.ii. require the airport and the co-permittees to record temperature, wind speed, rate and type of precipitation, application rate of deicing chemicals used, total quantity of deicing chemicals used, and to note whether the chemicals are being applied in wet or dry weather. In the Draft Permit, EPA requires some of this information (and it is not exactly clear which information) to be recorded every hour. Delta does not understand the justification behind EPA's request for this level of information, especially on an hourly basis. Interrupting the deicing process to record the amount of fluid and other requested parameters will detract from the goal of safety and increase the time necessary to perform the event, resulting in delays. In addition, co-permittees do not have the weather recording/technical capability to capture the temperature, wind speed, rate and type of precipitation, and the amount of deicing chemicals applied to each aircraft. If weather information is essential, weather information for Logan Airport is recorded by the National Oceanic and Atmospheric Administration on an hourly basis (www.weather.gov). Further, given EPA's current deicing effluent initiative to gather this same type of information on a national scale, it seems unnecessary for EPA to require this information in the storm water permit. The airlines on a national level are already dedicated to acquire the same information through EPA's initiative that is being required in the Draft Permit. Because EPA is already obtaining this information through its national initiative, it is unnecessary and redundant for EPA to mandate the information through the storm water permit for Logan, especially at the risk of flight safety. For these reasons, Delta requests that EPA eliminate these requirements.

Response to Comments XI.G.21 – XI.G.22: As described in Response to Comment V.B.8 – V.B.11, the Region has been persuaded that it makes sense to hold off on requiring measures relating to deicer which go beyond the already established requirements of the EPA's General Permits. See Response to Comments V.B.4 to V.B.7. Thus the draft permit provisions regarding the BMPP and PPP for deicer have been

replaced with language incorporated from the MSGP-2000. As explained above in the Response to Comments V.B.4 to V.B.7, this was done in order to allow time for a site specific Water Quality Study. Requiring compliance only with the minimum long established requirements of the General Permit also is justified in order to avoid imposing additional technology-based requirements which could vary from the ultimately adopted ELGs.

But the fact that EPA HQ is developing an ELG does not justify having no requirements relating to deicer in this permit. These permittees should not be excused from having to comply with the long standing requirements set forth the in General Permit and already determined to be necessary to meet the BAT and BCT standards, just because the EPA is considering adopting additional requirements. The EPA also notes that the SWPPP-BMP process is designed to be an iterative one. What BMPs are appropriate may change over time, in response to a variety of factors. This is natural and to be expected, and not a justification for doing nothing just because there is the possibility of future change. Part I.B.8 of the final permit requires re-evaluation of the SWPPP upon finalization of any Airport Effluent Limitation Guidelines (ELGs) to be consistent with the newly issued ELGs.

Refer to Response to Comment XI.G.12 concerning change in documenting the quantity of deicer used from a daily basis to a monthly basis, to be consistent with the MSGP-2000. Refer to Response to Comment XI.G.18 concerning use of data in conjunction with the results from the water quality study to help determine water quality impact to the receiving waters. Refer to Response to Comment V.C.1 – V.C.3 concerning safety requirements.

In response to the comment that Co-permittees do not have the weather recording/technical capability to capture the weather data previously required in the draft permit, the final permit does not require this information. Gathering of this data is not necessary because any future study related to weather can use the records of the data from the meteorological weather station at Logan.

Change to Permit: See Response to Comment V.D.2 for replacement of Part I.B.7 and I.B.8 to be consistent with the MSGP-2000. See Response to Comments V.B.4 – V.B.7 and V.B.8 – V.B.11 concerning reduction in deicer monitoring. See Response to Comment V.C.1 – V.C.3 concerning safety requirements.

XI.G.23 Comment from US Airways: Section B, paragraph 7.d.ii. BMP Plan for Identifying and Eliminating Deicing and Anti-Icing Sources (page 30 of 43) – Co-Permittees do not have the weather recording capability to capture the temperature, wind speed, rate and type of precipitation, and the amount of deicing chemicals applied to each aircraft. If weather information is essential, airports already possess a system for collection and retention.

Response to Comment XI.G.23: The final permit does not require the collection of weather information. Gathering of this data is not necessary because any future study

related to weather can use the records of the data collected from the meteorological weather station at Logan. Additionally, the recordkeeping requirements for deicer in the final permit do not include recording the amount of deicing chemicals applied to each aircraft. This requirement of the draft permit has been replaced to be consistent with the MSGP-2000, which requires collection of deicer data on a monthly basis.

Change to Permit: See Response to Comment V.D.2 for replacement of Part I.B.7 and I.B.8 to be consistent with the MSGP-2000.

XI.G.24 Comment from Continental Airlines: Pg. 30 sec. 7.d.ii = The high cost of deicing chemicals already prevents waste, however no airline would ever jeopardize safety, so only the proper amount of fluid necessary, can ever be justified. Evaluation of excess application becomes arduous. The data collection portion of this paragraph is burdensome from an operational standpoint. Deicing crews move from aircraft to aircraft quickly to reduce flight delays, leaving little time to record information until well after the storm event.

Response to Comment XI.G.24: Part I.B.7.c of the permit requires that Massport and the Co-Permittees evaluate deicer application rates and adjust as necessary to further minimize deicer application, *consistent with considerations of flight safety*. Refer to Response to Comment V.C.1 – V.C.3 concerning addition of I.A.14 to the permit which requires that "All procedures implemented pursuant to the permit shall be performed consistently with FAA requirements and considerations of flight safety."

Additionally, the recordkeeping requirements of the draft permit have been replaced to be consistent with the MSGP-2000, which now requires recording of deicer application, either as measured or, in the absence of metering, as estimated to the best of their knowledge, on a monthly basis, as opposed to the daily requirement of the draft permit.

Change to Permit: See Response to Comment V.D.2 for replacement of Part I.B.7 and I.B.8 to be consistent with the MSGP-2000. See Response to Comment V.C.1 – V.C.3 concerning safety requirements.

XI.G.25 Comment from JetBlue Airways: With respect to some of the specific requirements of the Best Management Practices Plan for DAC, JetBlue simply does not have some of the capabilities required to implement such a plan. For example, JetBlue does not have weather recording capability to collect temperature, wind speed, rate and type of precipitation. In addition, the monitoring requirements of the Best Management Practices Plan are so burdensome that safety of flight could be compromised. For example, requiring contractors that apply deicing chemicals to analyze and adjust application rates, measure and record weather conditions every 60 minutes is so burdensome that it could affect the safety of our operation. (Page 30 subpart I and ii). It is unclear why EPA needs to collect this data through the Permit when there are ongoing data collection efforts as part of the airport deicing effluent limitations guidelines.

Response to Comment XI.G.25: Refer to Response to Comment XI.G.23 concerning weather information, Response to Comment V.C.1 – V.C.3 concerning flight safety, Response to Comments XI.G.24, V.D.2, and V.B.4 – V.B.7 concerning replacement of deicer recordkeeping requirements to be consistent with the MSGP-2000, and Response to Comment XI.G.21 – XI.G.22 concerning ELGs.

Change to Permit: See Response to Comment V.D.2 and V.B.4 – V.B.7 for replacement of Part I.B.7 to be consistent with the MSGP-2000. See Response to Comments V.C.1 – V.C.3 concerning safety requirements.

XI.G.26 Comment from Massport on § I.B.7.d (page 29-30) [§ I.B.7 – Best Management Practices Plan - BMP Plan for Identifying and Eliminating Deicing and Anti-Icing Sources]: Massport requests an explanation as to why the data gathering requirements are necessary given EPA's current data gathering and analysis efforts for the Airport Deicing ELG and the research being conducting through the ACRP.

Response to Comment XI.G.26: The recordkeeping requirements for documenting the quantity of deicer used on a daily basis has been changed to be consistent with the MSGP-2000. Refer to Response to Comment V.D.2, which replaces Part I.B.7 with language consistent with the MSGP-2000.

The fact that EPA HQ is developing an ELG (and that ACRP is conducting research) does not justify having no requirements relating to DAC in this permit. These permittees should not be excused from having to comply with the long standing requirements set forth in the General Permit and already determined to be necessary to meet the BAT and BCT standards, just because the EPA (and ACRP) is considering possible additional requirements. Refer to Response to Comments XI.G.21 – XI.G.22.

Change to permit: See RTC V.D.2 for changes to Part I.B.7 of the permit.

XI.H. Comments related to Pollution Prevention Plan (PPP) for Deicing Chemicals

XI.H.1 Comment from Massport on § I.B.8 (Pgs. 30-31) [§ I.B.8 Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals]: : Massport requests that EPA remove the phrase "greatly reduce or eliminate" and replace it with the phrase "reduce, consistent with aviation safety."

Response to Comment XI.H.1: Most occurrences of the word “eliminate” in the permit have been replaced with “reduce.” Refer to Response to Comment XI.J.1 – XI.J.3. Additionally, a provision has been added to the permit at Part I.A.14 to require that “All procedures implemented pursuant to the permit shall be performed consistently with FAA requirements and consistently with considerations of flight safety.”

Change to permit: See Response to Comment XI.J.1 – XI.J.3 concerning replacement of the word “eliminate” with “reduce” and Response to Comment V.C.1 – V.C.3 concerning safety requirements.

XI.H.2 Comment from Delta on § I.B.8: Several terms are used inappropriately in the permit. First, the term "overapplication" should be deleted because Delta does not "over-apply" deicing chemicals. Currently, Delta applies deicing chemicals in accordance with FAA requirements. Second, the permit describes the required PPP as one that will "greatly reduce or eliminate the discharge of deicing chemicals." Again, deicing chemicals are applied per FAA safety requirements. Therefore, the terms "greatly" and "eliminate" should be deleted.

Response to Comment XI.H.2: Refer to Response to Comment XI.G.10 concerning discussion of overapplication of deicer. Refer to Response to Comment V.C.1 – V.C.3 concerning FAA and safety requirements. Refer to Response to Comment XI.J.1 – XI.J.3 concerning replacement of the word "eliminate" with "reduce."

Change to permit: See Response to Comments V.C.1 – V.C.3concerning FAA and safety requirements and Response to Comments XI.J.1 – XI.J.3 concerning replacement of the word "eliminate" with "reduce.".

XI.H.3 Comment from Massport on § I.B.8 (Pgs. 30-31) [§ I.B.8 Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals]: Six months is not adequate time to develop a pollution prevention plan. The experience of many airports indicates that the process of evaluating these controls is highly complex and time consuming. While some particular deicing management measures can be ruled out based on a particular airport's circumstances, the inherent complexity in the deicer and storm water aspects of the system, as well as the number of potential and emerging control techniques and approaches, leads to a large number of combinations of measures than could be theoretically applied at the Airport. Moreover, assessing certain individual options will require substantial lead time. For example, in order to release collected DAC to the MWRA treatment system, MWRA will require Massport to submit an in-depth report on discharge parameters such as flow rates, loading, and deicer concentrations. In order to thoroughly evaluate the most efficient set of measures, Massport requests a minimum of 24 months to develop the plan.

XI.H.4 Comment from Delta on § I.B.8: Development of a Pollution Prevention Plan (PPP) in six months is simply infeasible. At a minimum, data collection during the deicing season alone will require at least five months to adequately characterize deicing practices, and the collection of data from two deicing seasons would be preferred to ensure the data collected is representative. Even once the data is collected, the experience of many airports indicates that the process of evaluating possible control options is highly complex and time-consuming. In addition to the time necessary for data collection, a significant amount of time must be allowed for analysis of the numerous management options, which are interrelated and therefore difficult to analyze because individual BMPs can not be considered independently. For example, utilization of forced-air deicing system affects the quantity of deicer that maybe picked up by a vacuum truck, which in turn affects the size of the storage required and the size of the disposal (treatment or recycling) required. Additionally, time must also be allowed to obtain regulatory

approvals for any operational changes that may implicate flight safety. Therefore, Delta believes a period of twelve to eighteen months is more realistic given the data collection, analysis, and regulatory hurdles required for development of a PPP.

XI.H.5 Comment from Continental Airlines: Pg. 30 sec. 8 = Requires six (6) months to evaluate and develop a pollution prevention plan (PPP) for deicing chemicals (DAC). Due to the complex nature of this facility and task, we feel this is not enough time to prepare and implement an effective plan. As a co-permittee, we would request more time especially if there is a significant capital expenditure. A request of 120 to 180 days after the EPA approves the Massport plan. Continental routinely employs many options for aircraft deicing at several airports that can reduce the amount of deicing fluids reaching run-off. Practices such as forced-air deice trucks, radiant heat application (Infrared Technology), all can be useful but not without drawbacks.

XI.H.6 Comment from JetBlue Airways: With respect to the draft Permit's proposed requirement to implement a Pollution Prevention Plan for DAC, we again believe it is inappropriate to create such a plan in a vacuum without a more thorough understanding of the DAC discharges and the impact to water quality. Not only do we see a potential for confusion between the Best Management Practices Plan and the Pollution Prevention, but 6 months is not enough time to develop a Pollution Prevention Plan for deicing chemicals. A period of at least 24 months would be required given the complexity of the deicing system and storm water aspects of the system in order to evaluate, recommend and implement alternatives.

XI.H.7 Comment from United Airlines: Timelines for plan preparations and implementation are unnecessarily aggressive and unrealistic. The Fact Sheet does not provide any rationale for the aggressive and unattainable schedules.

Of even greater concern is the schedule for implementation of the DAC PPP. The Draft Permit provides *(Page 30 - Section 8.b)* that within six months from the effective date of the final Permit Massport and the Co-Permittees shall evaluate and recommend a plan to greatly reduce or eliminate the discharge of deicing chemicals from storm water and the storm water drainage system. As discussed above, United believes the DAC requirements are premature. We recommend that there first be an analysis of the water quality of the receiving waters in order to determine if there are impacts. Due to the highly variable nature of winter precipitation conditions and aircraft operations during winter weather, we believe that it will take time to gather sufficient data. Based upon our understanding of the complexities involved in conducting such studies, we believe it is necessary to provide for 24 months to complete this study. If, despite the various concerns outlined in these comments, the DAC PPP requirements were to move forward (after the water quality study) there must be sufficient time to then conduct a proper evaluation of options available for potential controls. Given the knowledge we have of the significant complexities encountered at other airports, it is difficult to assess the length of time that would be sufficient for a proper analysis of potential controls and subsequent implementation, but we believe this could only be done as a multi-year initiative.

XI.H.8 Comment from Northwest Airlines: § I.B.8 (pgs. 30-31). Within six months from the effective date of the final Permit, Massport and the Co-Permittees shall evaluate and recommend a plan to greatly reduce or eliminate the discharge of deicing chemicals from storm water and the storm water drainage system. Northwest Airlines believes that six months is an insufficient amount of time to develop an effective plan that addresses the reduction or elimination of deicing chemical discharges to the storm water drainage system at Logan International Airport.

According to the Permit, the development of a Pollution Prevention Plan for deicing chemicals requires the identification of management practices options for reducing the amount of deicing chemicals used, the implementation of a program to control and manage contaminated runoff that reduces or eliminates the amount of deicing chemicals being discharged, and the consideration of recovery alternatives for deicing materials during wet weather conditions. NWA believes that the development of a Pollution Prevention Plan is premature in the absence of a comprehensive assessment of the impact, if any, that deicing chemical discharges have on receiving waters at the airport. Further, such an analysis would determine what reductions or controls are needed to achieve full attainment of water quality standards. Without this information, it is not possible to develop appropriate, effective, and economically achievable Pollution Prevention Plans. We recommend that the development of a Pollution Prevention Plan be triggered either by water-quality based effluent limits specific to Logan International, or by future requirements established by Effluent Limitation Guidelines that may be applied to the aviation industry.

In order to effectively evaluate, select, and implement the range of management alternatives outlined in the Permit, adequate data collection, analysis, and regulatory review must be performed, both by Massport as well as by each Co-Permittee. A six-month time frame does not allow sufficient time to collect appropriate data on deicing chemical use, management, and discharge to the storm water drainage system during dry and wet weather conditions. At a minimum, data collection alone during the deicing season would require a minimum of five months to adequately characterize deicing practices. Data collection over at least two deicing seasons would be preferred. In addition to the time necessary to collect and analyze the data, consider the efficacy of various alternatives, and select one or more management practices to implement, time must be allocated to obtain regulatory approvals for any operational chances that may impact flight safety. Therefore, a period of 12 to 24 months (i.e., an extension of 6 to 18 months in the proposed schedule) from the effective date of the final Permit is a more reasonable time frame to evaluate, recommend, and implement management alternatives by the Pollution Prevention Plan.

Response to Comment XI.H.3 – XI.H.8: Part I.B.8 of the draft permit, Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals, has been removed from the permit. This Plan has been replaced with a requirement to re-evaluate the SWPPP. Specifically, Part I.B.8.a requires supplementation of the BMPs developed pursuant to the SWPPP following completion of the water quality study, as necessary, in order to protect the water quality of the receiving water (see Response to Comment XI.G.8). Part

I.B.8.b requires updating of the BMPs following issuance of the ELGs for airport deicers, as discussed in Response to Comment V.B.8 – V.B.11.

Refer to Response to Comment V.B.8 – V.B.11 concerning discussion that the deicer requirements of the final permit are not premature. Refer to Response to Comments V.C.1 – V.C.3 concerning adherence with FAA requirements and considerations of flight safety. Refer to Response to Comment XI.B.1 – XI.B.10 concerning the schedule for development of the SWPPP.

Change to permit: Replace Part I.B.5.c, "Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals" with "Re-evaluation of BMPs." See RTC V.D.2 for replacement language of Part I.B.8, PPP for Deicer, with Re-evaluation of BMPs.

XI.H.9 Comment from Massport on § I.B.8 (Pgs. 30-31) [§ I.B.8 Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals (Pgs. 29-31)]: The over-application evaluation requirements should be deleted from the Draft Permit. Runway and aircraft safety are of paramount importance in deicing and anti-icing application decisions. As described in Section B.3 above, Massport and the Co-Permittees should not be required to consider competing factors that may potentially jeopardize the safety of passengers, crew and airport personnel without substantial justification. Massport requests that the permit be modified to delete this requirement.

Response to Comment XI.H.9: Refer to Response to Comment V.C.1 – V.C.3 concerning considerations of flight safety. Refer to Response to Comment XI.G.10 concerning discussion of overapplication of deicer.

Change to permit: See Response to Comment V.C.1 – V.C.3 for addition of flight safety provision to the permit.

XI.H.10 Comment from AirTran Airways: Page 31 item 8 b states, "aircraft de-icing operations – Mass Port and the co-permittees that apply DAC chemicals to aircraft shall evaluate, whether ***excessive application*** of de-icing & anti-icing chemicals occurs and adjust as necessary, consistent with considerations of flight safety."

To facilitate this comment, DAC operations have been dissected into three components: 1) receiving and storing DAC chemicals on airport property and transport of DAC chemicals to aircraft for application, 2) application of DAC chemicals to aircraft, 3) flow of DAC chemicals to storm water drains and discharge of DAC chemicals to outflow areas.

With regards to the second component, the first priority of each U.S. air-carrier is safety of flight, as mandated by FAR 121.169. It is suggested, the EPA remove all language involving the second component of DAC operations from this permit.

Response to Comment XI.H.10: As stated throughout this Response to Comments Document, the draft permit requirements for deicer have been replaced with requirements consistent with the MSGP-2000.

However, Part I.B.7.d of the final permit requires, for aircraft deicing, that Massport and the Co-Permittees determine whether excessive application of deicing chemicals occurs and adjust as necessary, consistent with flight safety. However, unlike the draft permit, the final permit does not separate deicing operations into three components. Therefore, the request to remove all language involving the second component of deicer operations, application of DAC to aircraft, due to concerns of flight safety, need not be directly addressed. However, a provision has been added to the permit at Part I.A.14 to require that "All procedures implemented pursuant to the permit shall be performed consistently with FAA requirements and considerations of flight safety." This applies to the application of deicer to aircraft and therefore the above request has in that way been addressed.

Change to permit: See Response to Comment V.C.1 – V.C.3 concerning addition to the permit concerning flight safety and Response to Comment V.D.2 and XI.H.3 – XI.H.8 concerning replacement of Part I.B.8 of the permit.

XI.H.11 Comment from Massport on § I.B.8 (Pgs. 30-31) [§ I.B.8 Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals (Pgs. 29-31)]: Did EPA perform a cost-benefit analysis for the requirements in the Draft Permit to ensure that the requirements in subparts a and b are reasonable and conform to EPA's regulations and guidance for BAT/BCT and the development of BMPs? If so, Massport requests a summary and the documentation of this analysis as well as the results of EPA's analysis.

Response to Comment XI.H.11: Refer to Response to Comment V.B.4 – V.B.7 concerning the BAT/BCT analysis and Attachment A of this Response to Comment Document for the BAT/BCT analysis. See Response to Comments V.D.2 and XI.H.3 – XI.H.8 concerning replacement of Part I.B.8 of the permit.

Change to permit: See Response to Comment V.D.2 and XI.H.3 – XI.H.8 concerning replacement of Part I.B.8.

XI.H.12 Comment from Massport on § I.B.8 (Pgs. 30-31) [§ I.B.8 Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals (Pgs. 29-31)]: Massport requests clarification that Massport and the Co-Permittees can choose measures other than those listed.

XI.H.13 Comment from Delta on § I.B.8: The permit should clarify that potential control measures other than those listed may be chosen in the PPP if appropriate.

XI.H.14 Comment from Massport on § I.B.8.a (page 31) [§ I.B.8 Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals (Pgs. 29-31)]: Massport requests that EPA clarify that Massport must consider the listed BMPs in subpart a and that there are no requirements to select particular BMPs.

Response to Comments XI.H.12 – XI.H.14: Part I.B.8 of the draft permit, Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals, has been replaced with a requirement to re-evaluate the BMPs developed pursuant to the SWPPP. Part I.B.8.a requires supplementation of the BMPs developed pursuant to the SWPPP following completion of the water quality study, as necessary, in order to protect the water quality of the receiving water. Part I.B.8.b requires updating of the BMPs following issuance of the ELGs for airport deicers, as discussed in Response to Comment V.B.8 – V.B.11.

Regarding the development of the SWPPP and BMPs, in general, Massport and the Co-Permittees are not limited to considering the control measures listed in the permit. Also, they generally are not required to select particular BMPs. Rather, it is their responsibility to develop effective plans meeting BCT and BAT requirements and protecting Water Quality, but they are left considerable discretion as to how to do this. Their plans are subject to EPA review, if the EPA chooses to review them, but are developed by the permittees in the first instance, and set the applicable requirements unless and until they are changed as a result of any EPA review.

Change to permit: See Response to Comment V.D.2 concerning replacement of Part I.B.8.

XI.H.15 Comment from Massport on § I.B.8.a (page 31): Consolidation of the 44 outfalls associated with drainage from the runways is not technically feasible due to the flat grade of the airfield. Even if consolidation were possible, it would be a burdensome engineering and financial undertaking. Moreover, there is no evidence that consolidating the outfalls into fewer discharge points would be beneficial to Boston Harbor. Unless it can be demonstrated that collection of storm water from these outfalls is necessary to meet water quality standards, reviewing the technical feasibility of consolidating the outfalls is an inappropriate and unnecessary burden to Massport. Massport requests that a requirement for assessing consolidation of the outfalls be excluded from the final permit.

XI.H.16 Comment from Delta on § I.B.8: The recommendation in the permit that Massport consolidate its 44 outfalls is premature. Even considering whether such an effort would be practical is a significant engineering and financial undertaking, particularly considering the flat grade of the airfield. Moreover, there is no evidence that consolidation would improve discharges or water quality and consolidation of the outfalls could simply lead to the concentration of drainage into the harbor. Therefore, unless it can be demonstrated that collection of stormwater from these outfalls is necessary to meet water quality standards, reviewing the technical feasibility of consolidating the outfalls is an unnecessary burden. The requirement for assessing consolidation of the outfalls should be deleted from the permit until such a time as it can be demonstrated that consolidation of the outfalls is necessary for compliance or to implement required controls.

Response to Comments XI.H.15 – XI.H.16: Part I.B.8 of the draft permit, Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals, has been replaced with a

requirement for re-evaluation of the SWPPP. Therefore, the recommendation in the permit to consider consolidation of the 44 outfalls is no longer in the permit. However, Massport may consider consolidation of the 44 outfalls during development of initial site specific BMPs or upon re-evaluation of the BMPs developed pursuant to the SWPPP.

Change to permit: See Response to Comment V.D.2 concerning replacement of Part I.B.8.

XI.H.17 Comment from Massport on § I.B.8.b (page 31) [§ I.B.8 Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals (Pgs. 29-31)]: Massport does not perform aircraft deicing operations. Massport requests that EPA remove the reference to Massport in subpart b.

Response to Comment XI.H.17: Part I.B.8 of the draft permit, Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals, has been replaced with a requirement for re-evaluation of the SWPPP. However, Part I.B.7 of the permit has been replaced to be consistent with the MSGP-2000 and a section concerning aircraft deicing has been incorporated into this section. However, unlike section I.B.8.b of the draft permit, the final permit at Section I.B.7.d does not specifically refer to Massport. Thus, the change requested by Massport has in effect been made to the permit, as a result of Response to Comment V.D.2, which discusses the replacement of Sections I.B.7 and I.B.8.

Change to Permit: See Response to Comment V.D.2 concerning the replacement of Sections I.B.7 and I.B.8.

XI.H.18 Comment from Massport on § I.B.8.b (page 31) [§ I.B.8 Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals (Pgs. 29-31)]: For clarity, Massport requests that EPA split subpart b into two subsections. The first should contain the requirements for aircraft deicing operations and the second should address control and management of runoff.

Response to Comment XI.H.18: Part I.B.8 of the draft permit, Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals, has been replaced with a requirement for re-evaluation of the SWPPP. However, Part I.B.7 of the permit has been replaced to be consistent with the MSGP-2000 and two separate sections concerning aircraft deicing operations and management of runoff have been incorporated into this section. Therefore, the change requested by Massport has in effect been made to the permit.

Change to Permit: See Response to Comment V.D.2 concerning the replacement of Section I.B.7 and I.B.8.

XI.H.19 Comment from Delta on § I.B.8: The permit presumes that control of deicing chemicals is necessary. However, EPA has not provided any supporting information for this assumption. On the contrary, a receiving water-analysis prepared by Massport for

Logan Airport in 1992 determined that deicing chemicals did not cause a dissolved oxygen impairment in the receiving waters. Unless current discharges cause non-attainment of water quality standards, or prevent uses in the receiving waters, the suggested control options are unnecessary. Even if some control of deicing chemical discharges is appropriate at this time, a target level of control must be established based on a thorough examination of actual water quality impacts in order to provide some basis by which to compare the available options. Until an appropriate level of control is defined in the permit, it is extremely difficult to determine the appropriateness of various control options. We recommend that the development of a PPP be dependent on water-quality based effluent limits, perhaps through a phased approach that defines the water quality impacts prior to beginning the analysis of potential control options necessary to mitigate any impacts discovered.

XI.H.20 Comment from Northwest Airlines: § I.B.8 (pgs. 30-31). Within six months from the effective date of the final Permit, Massport and the Co-Permittees shall evaluate and recommend a plan to greatly reduce or eliminate the discharge of deicing chemicals from storm water and the storm water drainage system. Northwest Airlines believes that six months is an insufficient amount of time to develop an effective plan that addresses the reduction or elimination of deicing chemical discharges to the storm water drainage system at Logan International Airport.

According to the Permit, the development of a Pollution Prevention Plan for deicing chemicals requires the identification of management practices options for reducing the amount of deicing chemicals used, the implementation of a program to control and manage contaminated runoff that reduces or eliminates the amount of deicing chemicals being discharged, and the consideration of recovery alternatives for deicing materials during wet weather conditions. NWA believes that the development of a Pollution Prevention Plan is premature in the absence of a comprehensive assessment of the impact, if any, that deicing chemical discharges have on receiving waters at the airport. Further, such an analysis would determine what reductions or controls are needed to achieve full attainment of water quality standards. Without this information, it is not possible to develop appropriate, effective, and economically achievable Pollution Prevention Plans. We recommend that the development of a Pollution Prevention Plan be triggered either by water-quality based effluent limits specific to Logan International, or by future requirements established by Effluent Limitation Guidelines that may be applied to the aviation industry.

In order to effectively evaluate, select, and implement the range of management alternatives outlined in the Permit, adequate data collection, analysis, and regulatory review must be performed, both by Massport as well as by each Co-Permittee. A six-month time frame does not allow sufficient time to collect appropriate data on deicing chemical use, management, and discharge to the storm water drainage system during dry and wet weather conditions. At a minimum, data collection alone during the deicing season would require a minimum of five months to adequately characterize deicing practices. Data collection over at least two deicing seasons would be preferred. In addition to the time necessary to collect and analyze the data, consider the efficacy of

various alternatives, and select one or more management practices to implement, time must be allocated to obtain regulatory approvals for any operational chances that may impact flight safety. Therefore, a period of 12 to 24 months (i.e., an extension of 6 to 18 months in the proposed schedule) from the effective date of the final Permit is a more reasonable time frame to evaluate, recommend, and implement management alternatives by the Pollution Prevention Plan.

Response to Comments XI.H.19 – XI.H.20: Part I.B.8 of the draft permit, Development of a Pollution Prevention Plan (PPP) for Deicing Chemicals, has been replaced with a requirement for re-evaluation of the SWPPP.

However, discharges of deicer do present environmental concerns, and should be reduced to meet technology-based requirements. Massport has offered to do a site-specific Water Quality Study, and it is reasonable to wait for the results of this study before imposing deicer requirements which go beyond the General Permit requirements.

However, the General Permit requirements will apply, as described in Part I.B.7 of the permit, pending the completion of the Water Quality Study. DAC needs to be controlled to meet the technology-based standards, whether or not DAC discharges are causing water quality violations. The General Permit requirements set a well-established framework for achieving the technology-based standards. See Response to Comment V.B.4 – V.B.7 for a complete discussion.

The development of a SWPPP and BMPs is an iterative process - it makes sense for Massport and the Co-Permittees to establish minimum controls now, while potentially increasing the controls later if evidence develops regarding water quality problems as described in Part I.B.8.a of the permit which requires re-evaluation of the SWPPP following completion of the Water Quality Study.

In response to the comment that data collection during the deicing season would require a minimum of five months to adequately characterize deicing practices, the 24 month time frame allowed for the Water Quality Study will allow adequate time for characterization of deicing practices. This 24 month time frame will also address the preference for collection of data over two deicing seasons, as commented above.

Change to permit: See Response to Comment V.D.2 concerning the replacement of Part I.B.7 and I.B.8.

XI.I. Comments related to BMP Plan for Bacteria

XI.I.1 Comment from Division of Marine Fisheries: Marine Fisheries remains concerned that discharges of untreated sewage from the North Outfall adversely affect our ability to manage shellfish resources in the Wood Island flat shellfish growing area. This outfall drains onto the Wood Island flat, and has a long history of episodic dry weather discharges of sewage containing extremely high counts of fecal coliform bacteria. Earlier discussions with EPA indicated effluent limitations for this outfall could

require the end of pipe discharge of fecal coliform in conformance with the Commonwealth's SB standard for water approved for restricted shellfishing, which shall not exceed a fecal coliform median or geometric mean MPN of 88 per 100 ml, nor shall no more than 10% of the samples exceed an MPN of 260 per 100 ml. We recommend the permit hold the effluent discharge of fecal coliform from the North Outfall to this standard.

XI.I.2 Comment from Division of Marine Fisheries: Marine Fisheries supports the draft permit requirement for the Applicant to conduct a program to locate sources of chemical and bacterial contamination in their storm drainage system and implement sewer rehabilitation, cross connection removal, and operational improvements in accordance with a Best Management Plan and Stormwater Pollution Prevention Plan. However the draft permit is without enforceable provisions to ensure this longstanding problem of bacterial discharges will be corrected. We recommend the permit provide a required timetable for the Applicant to report the results of their storm drain investigations, and a timetable by which the Applicant will eliminate fecal coliform discharges from the North Outfall to levels commensurate with the SB water quality standard. We further recommend the elimination of sewage discharges from the North Outfall receive priority within the Applicant's storm drain remediation program.

XI.I.3 Comment from CZM: A few weeks ago we were speaking about the bacteria-laden stormwater coming out of Logan and onto the clam flats in Boston Harbor. Knowing that there is bacteria in the stormwater and knowing that the bacteria are often adsorbed to suspended particles in the water, one plan would be to infiltrate the stormwater, to remove the solids and the bacteria as well.

The UNH Center for Stormwater Evaluation has been evaluating several stormwater treatment systems for a couple of years now. The 2005 data report can be found here http://ciceet.unh.edu/news/releases/stormwater_report_05/. Out of the 13 technologies they have evaluated, three consistently removed 97-99% of the TSS. The upcoming 2006 report will contain the bacteria removal rates as well.

These three technologies are: 1) an Advanced Drainage System infiltration unit, 2) a Bioretention System, and 3) a Gravel Wetland (see http://ciceet.unh.edu/news/releases/stormwater_report_05/data_summary.html).

If you download the report (http://ciceet.unh.edu/news/releases/stormwater_report_05/Stormwater_05-03-06.pdf) and go to p. 14, you'll see the gravel wetland specifications. Certainly Massport can find 5450 square feet to install the three-bayed system, and the cost to install the system is minimal (<$25,000).

The installation of a stormwater infiltration technology may be a good way to address the bacterial pollution and not violate the bacterial TMDL for Boston Harbor and meet DEP's new policy for stormwater infiltration.

XI.I.4 Comment from CZM: It appears that there is a "monitor only" requirement for bacteria in the draft Logan Airport permit, but we know there are bacteria in the effluent, and the receiving water body is impaired for bacteria and is part of the statewide TMDL for bacteria.

Table 6-1 on p. 61 of the Draft Boston Harbor TMDL limits load allocation of bacteria from direct stormwater runoff not regulated by Phase I or II into SA designated shellfish areas to 14/43 organisms/100ml (http://www.mass.gov/dep/water/resources/bharbor1.pdf). How does one reconcile the TMDL with the requirement to only monitor for bacteria?

XI.I.5 Comment from CZM: Suggest the implication of some sort of timetable to the bacterial study requirement of the permit, including a timetable for submission of data to EPA. This would make the bacterial study requirement an easily enforceable permit requirement.

XI.I.6 Comment from MA Riverways: The issue of illegal septic tie-ins at the airport mentioned in the Fact Sheet is a bit of a puzzle. It is our understanding MassPort owns the buildings an infrastructure at the airport and provides services to its lessees. With this level of control of the buildings and infrastructure and the significant renovations and redevelopment at the airport, the continued existence of illegal tie-ins would seem unlikely. However if this is a problem we would like to recommend a timeline be included for completion of the illicit connection elimination plan which should include a schedule for implementation which would be enforceable under the NPDES permit. With enforceable provisions, a reporting mechanism would be key to keeping track progress and should be a part of the elimination plan.

Response to Comment XI.I.1 – XI.I.6: EPA shares the concerns articulated by MA DMF, MA CZM and MA Riverways regarding the discharge of wastewater contaminated with sewage and pathogens. Boston Inner Harbor and Winthrop Bay are among 32 pathogen impaired water segments of the Boston Harbor Watershed that are currently listed on the CWA 303(d) list of impaired waters. In order to provide that the discharge of pathogens from Logan Airport to these surface waters will not cause or contribute to this water quality impairment, the permit contains provisions designed to protect the water quality standards. Consistent with the Draft Boston Harbor TMDL for pathogens, referred to in MA CZM's comment, these permit provisions to reduce pathogen loading from storm water require the implementation of BMPs such as those associated with EPA's Phase II control program for storm water. In this case, the Draft TMDL has yet to be approved by EPA. Even if it were approved with numerical waste load allocations, the use of BMPs to reduce storm water pollutants is an acceptable measure (and the expected starting point endorsed in this Draft TMDL) of meeting water quality criteria at the end of the pipe, rather than unnecessarily setting numerical effluent limits for pathogens in the permit. See Section 7.0, Implementation Plan, of the Draft Pathogen TMDL for the Boston Harbor Watershed for more discussion of this approach.

Consistent with the BMP approach described in the Draft Boston Harbor TMDL for Pathogens, the permit's approach for reducing pathogens from discharges at Logan Airport is to start with a study to detect illicit connections and other bacteria sources. This bacteria study plan is an important and integral component of the permit. It has been tailored for this permit based on illicit detection and elimination programs being implemented in EPA's Phase I and Phase II control programs for storm water. Specifically, the plan for identifying and eliminating bacteria described in Part 1.B.9 of the permit, is a sound and appropriate solution to reduce bacteria and meet applicable Water Quality Standards. As specified in Part 1.B.9, MassPort, with the cooperation of the Co-Permittees, shall develop and implement a comprehensive SWPPP to identify and eliminate dry and wet weather illicit discharges to its separate storm water sewer system. The plan will focus on the sanitary sewer system as the primary source of contamination. The BMPs developed pursuant to the SWPPP will rely primarily on visual observations of the storm water sewer and sanitary sewer systems including, television inspection of the sanitary sewer system and dye testing of the sewer pipes and building plumbing. The protocol may be modified to address atypical situations such as surcharged pipelines, groundwater or backwater conditions that preclude adequate inspection, or the presence of non-human bacteria sources.

Massport may also employ additional investigative techniques, including indicator bacteria sampling, fluorescent whitening agents, and genetic microbial source tracking, to identify potential sources of bacteria from the sanitary sewer system to the storm water sewer system. Massport shall perform these investigations of the sanitary sewer system to assure bacteria sources are not entering the storm water sewer system. Results of these investigations will be used to determine if modifications of the BMPs are warranted.

EPA agrees with comments offered by MA DMF (X1.A.2) MA CZM (X1.A.5) and MA Riverways (X1.A.6) that it is appropriate for the permit to be clearer in expressing a required timeline for MassPort to report the results of its bacterial study requirement and reductions in pathogens in discharges. Therefore the requirement for a timeline has been added to the permit. As part of the master schedule to be developed by Massport as defined in Part I.B.9.f of the permit, Massport must include milestones leading to the identification of all illicit connections, and the elimination of all identified illicit connections, to be completed within the five year term of the permit. Additionally, Massport must report the results of the program annually to EPA, MassDEP, CZM and DMF. The following has been added to Part I.B.9.f of the permit, "Massport shall report the results of the program to EPA, MassDEP, Massachusetts Coastal Zone Management (CZM), and Massachusetts Division of Marine Fisheries (DMF) on an annual basis." Additionally, the following has been added as the last sentence in the first paragraph of Part I.B.9.f of the permit, "Unless a written extension is granted by the EPA and MassDEP, the master schedule must include milestones leading to the identification of all illicit connections, and removal of all identified illicit connections, to be completed within the five year term of this permit. Massport may obtain a written extension from the EPA and MassDEP only if it establishes that the completion of all such work within the five year term of this permit is not feasible. In such event, the EPA and MassDEP will establish in writing a new schedule which will be no longer than necessary to be

feasible. The need to accelerate current plans or to expend additional funds will not be sufficient to establish that a five year schedule is not feasible."

While the permit's provisions to reduce the discharge of pathogens through BMPs focus on the detection and elimination of illicit connections, other BMPs may be appropriate. These may include the use of storm water infiltration technology, a bioretention system, and/or a gravel wetland. Investigation and/or use of these treatment measures are encouraged in MA CZM's Comment X1.A.3. EPA agrees that these are generally viable technologies and may be feasible at the Logan Airport site, and may be needed if the required source reduction measures do not achieve their desired goals. These technologies should be considered by MassPort in the development and iterative implementation of measures to reduce storm water pollution. Indeed, Massport could decide to follow CZM's comment and implement certain treatment now. However, in this permit EPA is not being prescriptive in specifically requiring any one or more of these three treatment technologies at this time. Therefore, no change has been made in the final permit to specifically require these storm water treatment technologies.

Change to permit: Addition to the end of the first paragraph of Part I.B.9.f of the permit as follows:

> *Unless a written extension is granted by the EPA and MassDEP, the master schedule must include milestones leading to the identification of all illicit connections, and removal of all identified illicit connections, to be completed within the five year term of this permit. Massport may obtain a written extension from the EPA and MassDEP only if it establishes that the completion of all such work within the five year term of this permit is not feasible. In such event, the EPA and MassDEP will establish in writing a new schedule which will be no longer than necessary to be feasible. The need to accelerate current plans or to expend additional funds will not be sufficient to establish that a five year schedule is not feasible.*

Addition to Part I.B.9.f of the permit as follows," Massport shall report the results of the program to EPA, MassDEP, Massachusetts Coastal Zone Management (CZM), and Massachusetts Division of Marine Fisheries (DMF) on an annual basis."

XI.I.7 Comment from Massport on § I.B.9 BEST MANAGEMENT PRACTICES PLAN - Development of BMP Plan for Identifying and Eliminating Potential Sources of Bacteria (Pgs. 31-35): Massport requests that EPA reword the title to "BMP for Identifying and Reducing Potential Bacterial Sources." The elimination of potential bacterial sources is not feasible given the size of the airport, the number of outfalls and wildlife that may frequent the airport.

XI.I.8 Comment from Delta on § I.B.9: The title of Section LB.9 is inappropriate in that it will not be technically feasible to eliminate all potential sources of bacteria given the size of the airport, the number of outfalls, and the wildlife that may frequent the airport. As such, the title of Section LB.9 should be revised to 'Development of BMP Plan for Identifying and Reducing Potential Sources of Bacteria."

Response to Comment XI.I.7 – XI.I.8: Refer to Response to Comment XI.J.1 – XI.J.3, which states that most occurrences of the word "eliminate" throughout the permit have been replaced with "reduce." This applies to this title, which is now, "SWPPP for Identifying and Reducing Potential Bacterial Sources." (Refer to Response to Comment XI.A.2 – XI.A.3 concerning the change from the term "BMP" to "SWPPP")

Change to permit: See Response to Comment XI.J.1 – XI.J.3 concerning the replacement of "eliminate" with "reduce" and Response to Comment XI.A.2 – XI.A.3 concerning the replacement of "BMP" with "SWPPP."

XI.J. Comments related to BMP for Fuel and Oil Sources

XI.J.1 Comment from Massport on § I.B.10 Best Management Practices Plan - BMP Plan for Identifying and Eliminating Fuel and Oil Sources (Pgs. 36-41): Massport requests that EPA reword the title to "BMP for Identifying and Reducing Fuel and Oil Sources." The elimination of fuel and oil sources is not feasible given the number of vehicles and aircraft that are on the airport and the amount of fuel that is dispensed on a daily basis.

XI.J.2 Comment from Delta on § I.B.10: The title of Section I.B.10 is likewise inappropriate in that it will not be technically feasible to completely eliminate all potential fuel and oil sources given the size of the airport, the number of vehicles and aircraft that are fueled at the airport, and the amount of fuel that is dispensed at the airport on a daily basis. As such, the title of Section I.B.10 should be revised to "BMP Plan for Identifying and Reducing Fuel and Oil Sources."

XI.J.3 Comment from AirTran Airways: Page 38, item h, states "Minor maintenance activities are permitted at the terminals and the terminal aprons. Minor maintenance activities include addition of fluids, changing tires, batteries and hoses, and other maintenance activities that do not produce the potential of a release of pollutants." The requirement "not" to "produce the potential of a release of pollutants" is unrealistic. It is suggested, that EPA revise phrase to eliminate future interpretive issues. It is also suggested, that EPA include language to cover emergency aircraft maintenance for co-permittees that do not lease or own hangar space at Boston Logan Airport.

Response to Comments XI.J.1 – XI.J.3: With respect to uses of the word "eliminate," the permit has been changed in accordance with this comment. The title for Part I.B.10 of the permit now reads, "BMP for Identifying and Reducing Discharges from Fuel and Oil Sources." Most occurrences of the word "eliminate" in the permit have been replaced with "reduce."

The requirement, "not" to "produce the potential for a release of pollutants" is not unrealistic. If a maintenance activity does have the potential for a release of pollutants, it is not considered a "minor maintenance activity" as defined by this permit and therefore shall not be performed outside at terminal aprons, except in case of emergency or other

compelling circumstances. These "major maintenance activities" are permitted indoors, as described in Part I.B.10.h of the permit.

A provision has been added to the permit to allow major maintenance activities to be performed outside in case of an emergency or other compelling circumstances. The sentence, "Major maintenance activities shall be performed indoors, except in case of an emergency or other compelling circumstances," has been added to Part I.B.10.h of the permit (see Response to Comment XI.J.25- XI.J.30). This is consistent with Part I.B.10.i of the permit for automotive and GSE maintenance activties.

Change to permit: Replace most occurrences of the word "eliminate" with "reduce" and "Eliminating" with "Reducing." Refer to Response to Comment XI.J.25 – XI.J.30 concerning addition to Part I.B.10.h of the permit.

XI.J.4 Comment from Delta: Delta believes that the requirement to treat stormwater accumulated in the secondary containment area of the tank farm and the load rack area should be removed from the Draft Permit. As noted above, the scope of stormwater from industrial facilities for transportation is specifically limited to vehicle maintenance shops, equipment cleaning operations, or airport deicing operations areas. 40 C.F.R. §122.26(b)(14)(viii). We do not believe that this requirement appears in permits for other airports in the region. In addition, this requirement seems to impose requirements beyond what is necessary from a practical or regulatory standpoint. For instance, in the past, stormwater was visually inspected for a sheen and then discharged if no sheen was observed. It is our belief that this process is adequate at most airports and per state requirements. Imposing a requirement to treat all stormwater accumulated in the secondary containment area of the tank farm and the load rack would also be burdensome on operations and extremely expensive. In addition, stormwater generated in these areas is typically not impacted by any other material. Furthermore, stormwater in these areas is pumped through an oil water separator prior to discharge. Additionally, it is possible during heavy rainstorms for the diked area to contain several thousand gallons of water. There is no place to store this water on the airport while awaiting test results prior to discharge which could be several days to a couple of weeks (standard turn around is usually 2 weeks with a much higher cost for quick turnarounds). If the dike water stays in the diked area for any period of time, the airport would violate the SPCC requirements for secondary containment volume as the containment capacity would be significantly reduced. The airport would also violate SPCC requirements for secondary containment volume for the load rack as well. Delta believes that this requirement exceeds EPA's authority and requests that this requirement be removed from the Draft Permit.

Response to Comment XI.J.4: Delta Airlines argues that, by covering discharges from the fuel farm, the scope of the permit exceeds what the EPA may cover in this NPDES permit. Swissport - the operator of the fuel farm - does not make this argument. Rather, while commenting on the particular requirements proposed in the draft permit, Swissport has applied for these discharges to be covered and thus authorized by the permit. If EPA was to follow the position advocated by Delta Airlines, it would need to deny Swissport's

application for coverage of its discharges under the permit, which would inappropriately leave Swissport in the position of discharging without a permit.

The discharges from the fuel farm clearly are subject to Clean Water Act jurisdiction. See 40 C.F.R. 122.2(b). They occur through pipes which are point sources, contain pollutants such as oil and grease, and discharge to waters of the United States.

The discharges also are appropriately classified as being discharges of storm water associated with industrial activity. Delta's argument that the discharges are not storm water associated with industrial activity is that (i) 40 C.F.R. 122.26(b)(14)(viii) limits the term "storm water discharge associated with industrial activity" to storm water from "only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (b)(14)(i) - (vii) or (ix) - (xi)....", and (ii) storm water from the fuel farm area does not come from portions of the facility involved in such activities.

Delta is wrong for a variety of reasons. First, the fuel farm area is an area which is involved in "fueling." Thus even if 40 C.F.R. 122.26(b)(14)(viii) is read in isolation from the rest of EPA's regulations, it is clear that the fuel farm area should be covered as an area generating storm water associated with industrial activity. Second, subparagraph (viii) needs to be read together with the rest of the regulation, and the introduction to 40 C.F.R. 122.26(b)(14) makes clear that areas associated with industrial activity include "storage areas (including tank farms) for raw materials" and "material handling" areas. The clear intention of the regulations is to include all areas associated with industrial activity (such as airline fueling) while excluding only "areas ... separate from ... industrial activities, such as office buildings and accompanying parking lots...." The fuel farm area is not separate from the airport fueling operations. The rest of the regulation thus confirms that the fuel farm area has been appropriately classified as an area generating storm water associated with airport fueling operations and thus associated with industrial activity.

Change to permit: None, but see Response to Comments XI.J.5 – XI.J.12, below, for changes to the sampling requirements at the fuel farm.

XI.J.5 Comment from Massport on § I.A.4 Internal Outfalls for Outfall 001 (Pgs. 9-10): Massport requests that EPA remove the requirement to perform laboratory analysis of storm water accumulated in the secondary containment area of the tank farm and the load rack area, given that it already passes through the oil water separators. Massport is concerned that during heavy rainstorms, the diked area may contain several thousand gallons of water. There is no place to store this water on the Airport while awaiting test results prior to discharge (standard turn around is usually 2 weeks). If the dike water stays in the diked area for any period of time, the Airport would violate the SPCC requirements for secondary containment volume as the containment capacity would be significantly reduced. These concerns apply to the containment capacity of the load rack as well.

XI.J.6 Comment from Swissport (RECEIVED LATE): Page 10 of Permit #12 – Footnote for Table at I.A.3 Swissport is concerned about the requirement to treat stormwater accumulated in the secondary containment area of the tank farm and the load rack area. In the past, Swissport was permitted to visually inspect the stormwater for sheen and then discharge it if none was observed. In our experience, this is adequate at most airports and per state requirements. It does not appear that this is a requirement of any other airport facilities in the region. We believe this goes beyond what is needed and these requirements would be burdensome to our operations and very expensive. Typically, stormwater generated in these areas is not impacted by any other material. Also, the permit fact sheet mentions on Page 4, oil treatment equipment was installed in 1989 to treat water from this outfall which included the storm water generated at the Swissport facility. If this is the case, any water discharged from the areas would be treated through the oil water separator. Additionally, stormwater in these areas is pumped through an oil water separator at the Swissport facility prior to discharge. Currently, the storm water is inspected for sheen and then released to the oil water separator and then discharged to the stormwater system. Swissport would like to be able to continue discharging the dike water and load rack water the same way. Sampling results from this outfall from the previous years show little or no impact to stormwater discharged for these areas, with only a minor amount of exceedances of specified limits. Additionally, it is possible during heavy rainstorms for the diked area to contain several thousand gallons of water. There is no place to store this water on the airport or at the Swissport facility while awaiting test results prior to discharge which could be several days to a couple of weeks (standard turn around is usually 2 weeks with a much higher cost for quick turnarounds). If the dike water stays in the diked area for any period of time, Swissport would violate the SPCC requirements for secondary containment volume as the containment capacity would be significantly reduced. This goes for the containment capacity of the load rack as well. We also feel that this requirement for the load rack contradicts Page 37 d. which states the requirement to divert storm water away from the fueling areas. If we are required to sample the load rack water, accumulated storm water will sit in the fuel loading area while we wait for sample results, again which could be several days or up to a couple of weeks.

Swissport would like clarification on Page 10 Section VB. Fact sheet states that storm water that accumulates at the above-ground storage tank bunkers and storm water that accumulates at the fuel loading rack are considered non-storm water discharges that are authorized under the permit? Can these non-storm water discharges be released or do they require handling as outlined in the permit and discussed above?

XI.J.7 Comment from Massport on § I.B.10 Best Management Practices Plan - BMP Plan for Identifying and Eliminating Fuel and Oil Sources (Pgs. 36-41): Massport request that the requirement for collection and laboratory analysis of the water that collects in the secondary containment of ASTs be removed. This practice is not consistent with the effluent guidelines of similar transportation facilities reviewed by the permit writer. The BMPs for the Oil Terminals and CSX facility listed in the Fact Sheet do not contain this requirement and it is unrealistic to obtain analytical results from the containment area before discharge. Holding the contents of the secondary containment

structure during heavy or multiple precipitation events while waiting for sample results will violate the SPCC requirements by not allowing sufficient containment capacity. The secondary containment water is treated by an oil/water separator at the Logan Bulk Fuel Facility which is compatible with technology-based guidelines.

XI.J.8 Comment from Massport on § I.B.10 Best Management Practices Plan - BMP Plan for Identifying and Eliminating Fuel and Oil Sources (Pgs. 36-41):
Subpart a. Above Ground Storage Tanks

Massport requests that EPA clarify which ASTs "large AST bunkers" is referencing when it requires that accumulated storm water in the large AST bunkers shall be sampled and discharged after the results confirm that effluent limits are met.

Massport requests that the sampling requirements for storm water in the containment areas be deleted in favor of observing the water for visible sheens and ensuring that the flow rate discharged from the containment areas does not exceed the capacity of the oil-water separator concentrations of O&G, benzene, and TSS to levels that meet effluent limits. The following justification is provided:

> The Fact Sheet indicates that water that accumulates around the ASTs inside the spill containment berm shall be sampled and analyzed for pH, TSS, O&G, and benzene prior to discharge to the oil-water separator. The standard turn-around-time for analysis of these parameters is 1 - 2 weeks (faster turn around times can be obtained for a higher cost). If additional precipitation events occur during the time the analyses are being conducted, is a new sample required, thus invalidating the samples currently being analyzed? Please clarify.
>
> The condition requiring sampling of storm water accumulated in the containment areas may lead to a condition of long periods of standing water in the containment areas, which is a potential wildlife attractant hazard and therefore a potential aircraft safety concern and is inconsistent with FAA requirements.
>
> It is unclear why sampling is needed prior to discharge to an oil-water separator whose purpose is to reduce the concentrations of O&G, benzene, and TSS to levels that meet effluent limits.

XI.J.9 Comment from Delta on § I.B.10: The permit requirement to sample water that accumulates around the ASTs is burdensome and unnecessary. Since the water collected around the ASTs is discharged to an oil-water separator, it is unclear what benefit sampling the water prior to treatment could provide. Moreover, the turnaround time for sampling results is one to two weeks, during which time, presumably, the permit would require the collected water to remain in place. Allowing water to continue standing for long periods of time raises several concerns. First, the requirement raises the question of whether new sampling must be taken if additional storm events occur before the sampling results are received. Second, standing water is a potential wildlife attractant and, as such, could present a potential aircraft safety concern that is inconsistent with FAA

requirements. Third, holding the contents of secondary containment structures during heavy or multiple rain events while waiting for sampling results would violate the SPCC by risking capacity exceedances of the containment structures. Finally, the requirement to sample the accumulated water is inconsistent with the effluent guidelines of other similar transportation facility permits, such as oil terminals and railroad facilities, which are not burdened with such sampling requirements. Because of these considerations, the sampling requirements should be deleted in favor of a requirement to check the water for visible sheens and ensure that the flow rate to the oil-water separator does not exceed the capacity of the separator.

XI.J.10 Comment from US Airways: Section B, paragraph 10.c. BMP Plan for Identifying and Eliminating Fuel and Oil Sources (page 36 of 43) Minimum Requirements for ASTs – The requirement for collection and sampling of the water that collects in the secondary containment of ASTs is not consistent with the effluent guidelines of similar transportation facilities reviewed by the permit writer. The BMPs for the Oil Terminals and CSX facility listed in the Fact Sheet do not contain this requirement and it is unrealistic to obtain analytical results from the containment area before discharge. Holding the contents of the secondary containment structure during heavy or multiple precipitation events while waiting for sample results will violate the SPCC requirements by not allowing sufficient containment capacity. The secondary containment water is treated by an oil/water separator at the Logan Bulk Fuel Facility which is compatible with technology based guidelines.

XI.J.11 Comment from Massport on § I.B.10 Best Management Practices Plan - BMP Plan for Identifying and Eliminating Fuel and Oil Sources (Pgs. 36-41): Subpart d. Underground Storage Tanks - Massport requests that EPA clarify if the "fuel farm" referenced in this section refers strictly to the BOSFUEL Fuel Farm or also to Massport's Facilities II Maintenance Facility and Massport's Fire and Rescue Headquarters Facility. As with the AST requirements in 10.a, it is unclear why sampling is needed prior to discharge to an oil-water separator whose purpose is to reduce the concentrations of O&G, benzene, and TSS to levels that meet effluent limits. As a result, it is requested that the sampling requirements for storm water in the containment areas be deleted in favor of observing the water for visible sheens and ensuring that the flow rate discharged from the containment areas does not exceed the capacity of the oil-water separator.

XI.J.12 Comment from Delta on § I.B.10: Several terms in Section I.B.10 are in need of clarification. First, the term "large AST bunkers" in Section I.B.10.a. is ambiguous; the permit should clarify exactly which ASTs are included within the term "large AST bunkers." Second, the term "AV-1" is also ambiguous in that "AV-1" generally refers to aviation gasoline, which is not used at the airport. Therefore, "AV-1" should be revised to clarify which fuels and ASTs are covered by the requirements of Section I.B.10.c. Third, the permit should clarify whether the term "fuel farm" in Section I.B.10.e. refers solely to the Swissport Fuel Farm or whether it also applies to Massport's Facilities II Maintenance Facility and Massport's Fire and Rescue Headquarters Facility. Finally, the term "adequate supply" in Section I.B.10.g.iii. is vague and should be clarified as well.

Response to Comments XI.J.5 – XI.J.12: The requirements to sample storm water accumulated in the secondary containment areas prior to treatment have been removed from the permit, since holding the water in the bermed areas could result in violation of the SPCC requirements for secondary containment volume and is not consistent with the requirements for similar transportation facilities. In addition, since the storm water is subject to treatment, sampling prior to treatment would not be representative of what is being discharged. Sampling of the discharges from the Aboveground Storage Tanks and Fuel Loading Rack Area (Outfall 001D) and the Set-up Tank (Outfall 001E) is still required; however, the samples are to be taken after treatment, prior to commingling with other discharges through Outfall 001, monthly during discharge. Specifically, the discharge from Outfall 001E (the water from the hydrant pits and vaults) shall be sampled after treatment by a unit consisting of an oil/water separator, a filter, and two carbon filters in series. The treated water from the hydrant vaults and pits then combines with water from the Fuel Loading Rack Area, water from the ASTs, and water from all other bermed areas at the fuel farm for treatment through an oil/water separator at the fuel farm. This discharge from Outfall 001D will be sampled after treatment by the oil/water separator at the fuel farm, prior to commingling with other discharges to Outfall 001. Outfall 001D (including the commingled discharge from Outfall 001E) subsequently discharges through Outfall 001.

It is appropriate to maintain the sampling requirements (and effluent limits), as modified, regarding Outfalls 001D and 001E, to ensure that the treatment systems are operated effectively. The Outfall 001D requirements appropriately apply to this wastestream after treatment but prior to its being diluted by mixture with the other collected waters which ultimately flow from Outfall 001E. The Outfall 001E requirements appropriately apply to the wastewaters being discharged directly into pipes leading to surface waters.

The following phrase in the table of Part I.A.4 of the permit, "authorized to discharge storm water associated with industrial activity from accumulated storm water inside the Aboveground Storage Tank berms…" has been replaced with "authorized to discharge storm water associated with industrial activity from the Aboveground Storage Tank berms…" and the measurement frequency in the table of Part I.A.4, has been changed from "Before Discharging" to "1/Month." For clarification purposes, the description of Outfall 001D has been revised from "North Outfall for Aboveground Storage Tanks and Fuel Loading Rack Area" to "North Outfall for Aboveground Storage Tanks and Fuel Loading Rack Area commingled with the treated water from the Set-up Tank." Finally, the last sentence in the table of Part I.A.4 has been changed to clarify that Swissport is the current operator of the fuel farm as follows: "Such discharges shall be limited and monitored by Swissport, or any future Co-Permittee operating the Centralized Fuel Farm, as specified below."

Additionally, Part I.A.4, Footnote 12 has been replaced with the following to reflect the change in sampling requirements, as well as to clarify the monthly wet weather sampling requirements after treatment for each outfall, to clarify who is the contractor operating the fuel farm and the DMR submission requirements, and to correct a typographical error in

requiring an estimate of the amount of storm water released to Outfall 003 instead of Outfall 001:

> The water from the hydrant vaults and pits which collects in the Set-up tank shall be sampled, as Outfall 001E, after treatment through a unit consisting of an oil/water separator, a filter, and two carbon filters in series, prior to commingling with the water from the bermed areas of the fuel farm (including the AST bermed areas) and the water from the Fuel Loading Rack. The water from the bermed areas of the fuel farm (including the AST bermed areas) and the water from the Fuel Loading Rack combine with the treated water from the hydrant vaults and pits via the Set-up Tank and pass through the oil/water separator located at the fuel farm, as Outfall 001D. This water shall be sampled after treatment with the oil/water separator at the fuel farm, but prior to commingling with any other water passing through Outfall 001. A monthly grab sample shall be taken during discharge, at a location representative of the discharge after treatment, as described above for each outfall. On a monthly basis, Swissport (or any future Co-Permittee operating the Centralized Fuel Farm) shall report on the DMRs the maximum daily value of the testing results by the 15th of the following month. All samples shall be tested using the NPDES approved EPA analytical methods for the designated effluent characteristic in accordance with 40 C.F.R. §136. Alternative methods can be used if approved by EPA in writing, in accordance with the procedures in 40 C.F.R. §136. An estimate of the average monthly and maximum daily amount of storm water released to Outfall 001 shall be reported in gallons. The DMRs shall be submitted to Massport for inclusion with the other DMRs required by the permit for submittal to EPA. The monitoring and reporting requirements shall become effective upon the effective date of the permit.

Part I.B.10.a of the permit has been changed to reflect the change in sampling requirements as follows:

> The accumulated storm water in the large AST bunkers combines with the flow from the fuel loading rack and the treated flow from the hydrant vaults and pits (Outfall 001E) for treatment by the oil/water separator at the fuel farm to discharge as Outfall 001D. The water shall be sampled at a location representative of the discharge after treatment with the oil/water separator at the fuel farm, but prior to commingling with the other discharges through Outfall 001. The discharge shall meet the effluent limits in accordance with Part I.A.4, above, for Outfall 001D.

Part I.B.10.d of the permit has been changed for clarification purposes as follows, “storm water from the *hydrant* vaults and pits…”

The following has been added to Part I.B.10.d of the permit to clarify the change in sampling requirements:

> The water from the hydrant vaults and pits which collects in the Set-up tank shall be sampled, as Outfall 001E, after treatment through a unit consisting of an oil/water separator, a filter, and two carbon filters in series, prior to commingling with the water from the bermed areas of the fuel farm (including the AST bermed areas) and the water from the Fuel Loading Rack for treatment through an

additional oil/water separator and subsequent discharge to Outfall 001. The discharge shall meet the effluent limits in accordance with Part I.A.4, above, for Outfall 001E.

Part I.B.10.e.ix of the permit has been changed to reflect the change in sampling requirements as follows:

> Storm water that accumulates at the loading racks at the fuel farm shall be sampled after commingling with the treated water from the hydrant vaults and pits via the Set-Up tank and after subsequent treatment by the oil/water separator at the fuel farm, prior to commingling with other discharges through Outfall 001, in accordance with the effluent limitations in Part I.A.4 of this permit, above, for Outfall 001D.

In response to Swissport's request for clarification of the correct handling of storm water that accumulates at the above-ground storage tank bunkers and storm water that accumulates at the fuel loading rack, the permit has been modified as stated directly above, and the requirement to sample the water prior to treatment has been removed from the draft permit. Therefore, the concerns of Swissport related to the requirements of the draft permit to sample the water accumulating in the fuel loading rack and the diked areas of the fuel farm including the water accumulating in the AST diked areas prior to treatment have been resolved. These concerns include a possible contradiction with the requirement at Part I.B.10.e.ii (which Swissport incorrectly identified as Page 37d) to divert storm water away from the fueling areas. This requirement to divert storm water run-on away from the fueling areas through the use of grade control, berms, or curbing to avoid storm water contact with contaminated surfaces has been retained in the final permit; however, it is no longer a contradiction since the sampling requirements have been changed as described above.

In response to the comment requesting clarification of the term "fuel farm," this term refers to the fuel farm operated by Swissport (or any future Co-Permittee operating the Centralized Fuel Farm), subject to sampling at Outfalls 001D and 001E, as defined in Part I.A.4 of the permit and described above. However, any facility that provides fueling must develop and implement appropriate BMPs pursuant to the SWPPP for Identifying and Reducing Discharges from Fuel and Oil Sources. Massport specifically requests clarification as to whether Massport's Facilities II Maintenance Facility and Massport's Fire and Rescue Headquarters Facility are included in the references to "fuel farm." Although these facilities are not included in the term "fuel farm," and thus do not require sampling and meeting numeric effluent limits as described above for Outfalls 001D and 001E, if these facilities provide fueling, Massport shall develop and implement BMPs consistent with those described in Part I.B.10 of the permit to reduce discharges from fuel and oil sources. Likewise, Co-Permittees shall develop and implement appropriate BMPs specific to their facility and operations. The following has been added to the permit to clarify this:

> Part I.B.10, throughout: Addition of "(or any fuel)" to description of fuel to include all potential fueling operations.

Part I.B.10.d: Addition of "Any additional USTs which provide fueling shall require the following BMPs, as defined below."

Part I.B.10.e: Change title to "Minimum requirements for USTs and Loading Rack Area at the Fuel Farm and any other facilities providing fueling."

Part I.B.10.g: Addition of "Massport and" to description of parties responsible for implementing BMPs for fueling practices applicable to their facility and specific operations.

The "AST secondary containment area" or "AST bunkers" refers to the containment surrounding the four 43,000 barrel ASTs located at the centralized tank farm, at the fuel farm. Therefore, the use of the phrase "large AST bunkers" in Part I.B.10.a of the permit refers to the containment area of these specific ASTs. For clarification purposes, the title of Part I.B.10.a has been changed from "Above Ground Storage Tanks" to "Above Ground Storage Tanks at Fuel Farm." However, Section I.B.10.c, Minimum Requirements for ASTs, refers to all above ground storage tanks onsite which provide fueling.

Delta requests clarification of the term "adequate supply" as used in Part I.B.10.g.iii of the permit, "Provide and maintain an adequate supply of spill response materials and equipment on all fueling trucks." The term "adequate" means sufficient to satisfy a requirement or meet a need. Therefore, in the context of this permit, all fuel trucks shall have enough spill response materials and equipment on board to satisfy the start of cleanup of a potential spill of fuel from the truck. The term "adequate" will not be vague when applied to specific Co-Permittee situations and spill response procedures. The development and implementation of BMPs, specifically applicable to each Co-Permittee, should help define the "adequate" supply required on each fueling truck in order to satisfy the start of cleanup of a potential spill from the truck.

Refer to Response to Comments XI.J.17 – XI.J.19 concerning clarification of the term "AV-1."

Change to permit:

Table of Part I.A.4:

Changed from "authorized to discharge storm water associated with industrial activity from accumulated storm water inside the Aboveground Storage Tank berms…" to "authorized to discharge storm water associated with industrial activity from the Aboveground Storage Tank berms…"

Change measurement frequency from "Before Discharging" to "1/Month."

Change "North Outfall for Aboveground Storage Tanks and Fuel Loading Rack Area" to "North Outfall for Aboveground Storage Tanks and Fuel Loading Rack Area commingled with the treated water from the Set-up Tank."

Addition of "Swissport, or any future Co-Permittee operating the Centralized Fuel Farm"

Replacement of Part I.A.4, Footnote 12, see above.

Change to Part I.B.10.a as follows:

The accumulated storm water in the large AST bunkers combines with the flow from the fuel loading rack and the treated flow from the hydrant vaults and pits (Outfall 001E) for treatment by the oil/water separator at the fuel farm to discharge as Outfall 001D. The water shall be sampled at a location representative of the discharge after treatment with the oil/water separator at the fuel farm, but prior to commingling with the other discharges through Outfall 001. The discharge shall meet the effluent limits in accordance with Part I.A.4, above, for Outfall 001D.

Removal of the following from Part I.B.10.c, "After a storm event, samples shall be taken of the water that collects in the secondary containment. The samples shall be analyzed for oil and grease (O&G), benzene, TSS and pH. An estimate of the amount of water shall be made or the water metered upon removal. The water can be discharged into the facility storm water drainage system if it meets the effluent limits specified in Part I.A.4, page 9, above. Otherwise, the water shall be treated to below the effluent limits before being discharge to the facility storm water drainage system, or be transported and disposed of off-site consistent with all federal and state requirements."

Addition to Part I.B.10.d as follows, "hydrant."

Addition to Part I.B.10.d:

The water from the hydrant vaults and pits which collects in the Set-up tank shall be sampled, as Outfall 001E, after treatment through a unit consisting of an oil/water separator, a filter, and two carbon filters in series, prior to commingling with the water from the bermed areas of the fuel farm (including the AST bermed areas) and the water from the Fuel Loading Rack for treatment through an additional oil/water separator and subsequent discharge to Outfall 001. The discharge shall meet the effluent limits in accordance with Part I.A.4, above, for Outfall 001E.

Change to Part I.B.10.e.ix:

Storm water that accumulates at the loading racks at the fuel farm shall be sampled after commingling with the treated water from the hydrant vaults and pits via the Set-Up tank and after subsequent treatment by the oil/water separator at the fuel farm, prior to commingling with other discharges through Outfall 001, in accordance with the effluent limitations in Part I.A.4 of this permit, above, for Outfall 001D.

Part I.B.10, throughout: Addition of "(or any fuel)" to description of fuel to include all potential fueling operations.

Part I.B.10.d: Addition of "Any additional USTs which provide fueling shall require the following BMPs, as defined below."

Part I.B.10.e: Change title to "Minimum requirements for USTs and Loading Rack Area at the Fuel Farm and any other facilities providing fueling."

Part I.B.10.g: Addition of "Massport and" to description of parties responsible for implementing BMPs for fueling practices applicable to their facility and specific operations.

Title of Part I.B.10.a has been changed from "Above Ground Storage Tanks" to "Above Ground Storage Tanks at Fuel Farm."

XI.J.13 Comment from Massport on § I.B.10 Best Management Practices Plan - BMP Plan for Identifying and Eliminating Fuel and Oil Sources (Pgs. 36-41):
Massport requests that reference to blocking or containing the catch basins during fueling be removed since it is impractical and potentially dangerous. Personnel blocking the drains would be exposed to passing taxiing aircraft, interrupt normal traffic and add to ramp congestion. This would also dramatically add to the time required to fuel aircraft without clear benefit. The current spill plan addresses release containment with pre-positioned spill response equipment. During a precipitation event, blocking the storm drain would lead to excessive water collecting on the ramp creating safety hazards. During a winter storm event the pooled water could freeze requiring additional ramp deicers to melt the collected water.

XI.J.14 Comment from Delta on § I.B.10: Blocking or containing catch basins during fueling is impractical and potentially dangerous. Blocking drains would interrupt normal traffic and cause unnecessary ramp congestion. Additionally, passing aircraft would present a significant danger to personnel attempting to block the drains. The requirement would also increase the amount of time required to fuel aircraft and, during storm events, could result in a significant safety hazard by causing the collection of water or ice on the airfield and taxiways. Furthermore, the burden of this requirement is unwarranted and unnecessary in that any spills will be addressed through pre-positioned spill response equipment.

XI.J.15 Comment from US Airways: Section B, paragraph 10.g.i. BMP Plan for Identifying and Eliminating Fuel and Oil Sources (page 38 of 43) Best Management Practices for Fueling Practices – Blocking or containing the catch basins during fueling is impractical and potentially dangerous. Personnel blocking the drains would be exposed to passing taxing aircraft, interrupt normal traffic and add to ramp congestion. This would also dramatically add to the time required to fuel aircraft without clear benefit.

The current spill plan addresses release containment with pre-positioned spill response equipment.

During a precipitation event, blocking the storm drain would lead to excessive water collecting on the ramp creating safety hazards. During a winter storm event the pooled water could freeze requiring additional ramp deicers to melt the collected water.

XI.J.16 Comment from United Airlines: Blocking or containing catch basins during fueling. (*Page 38 – Section I.B.10.g)* The Draft permit requires the permittees to block or contain catch basins during fueling. This requirement is unreasonable, burdensome, and potentially dangerous. Blocking drains could lead to the puddling of fuel near an aircraft that could create a significant fire hazard for an aircraft. In addition, having personnel blocking drains during each fueling event would interrupt normal traffic and cause unnecessary ramp congestion. The requirement would also increase the amount of time required to fuel aircraft. In addition, during a storm event, this procedure could result in a further safety hazard by causing the collection of water or ice on the airfield and taxiways. Furthermore, the burden of this requirement is unwarranted and unnecessary in that any spills will be addressed through pre-positioned spill response equipment.

Response to Comments XI.J.13 – XI.J.16: The permit has been changed in accordance with these comments. The permit will not require the Permittee and Co-Permittees to block catch basins during fueling since this could create an unnecessary disturbance of fueling operations. Spills will be more suitably addressed with pre-positioned spill response equipment, as required in Part I.B.10.g.iii of the permit, along with a requirement for the permittees to describe and implement measures in the SWPPP that prevent or minimize the discharge of fuel to the storm sewer/surface waters resulting from fuel servicing activities or other operations conducted in support of the airport fuel system. The permit now specifies that the permittees should consider the following fueling BMPs (or their equivalents): implementing spill and overflow practices (e.g., placing absorptive materials beneath aircraft during fueling operations); using dry cleanup methods; and collecting storm water runoff. This additional requirement is consistent with language from the MSGP-2000 and replaces Part I.B.10.g.i of the draft permit, and reads as follows:

> Describe and implement measures that prevent or minimize the discharge of fuel to the storm sewer/surface waters resulting from fuel servicing activities or other operations conducted in support of the airport fuel system. Consider the following fueling BMPs (or their equivalents): implementing spill and overflow practices (e.g., placing absorptive materials beneath aircraft during fueling operations); using dry cleanup methods; and collecting storm water runoff.

Change to permit: Replacement of I.B.10.g.i with "Describe and implement measures that prevent or minimize the discharge of fuel to the storm sewer/surface waters resulting from fuel servicing activities or other operations conducted in support of the airport fuel system. Consider the following fueling BMPs (or their equivalents): implementing spill and overflow practices (e.g., placing absorptive materials beneath aircraft during fueling operations); using dry cleanup methods; and collecting storm water runoff."

XI.J.17 Comment from Massport on § I.B.10 Best Management Practices Plan - BMP Plan for Identifying and Eliminating Fuel and Oil Sources (Pgs. 36-41): Subpart c. Minimum Requirements for ASTs: Massport requests that EPA clarify the section reference to "AV-1". Aviation gasoline is not used at Logan, the only fuel used at Boston Logan is JET -A. All references to AV-1 should be eliminated.

XI.J.18 Comment from Swissport (RECEIVED LATE): Page 38 of the fact sheet, Page 36 c. of the Permit – Refers to quantity of AV-1, which is aviation gasoline. Aviation gasoline is not used at Logan, the only fuel used at Boston Logan is JET-A.

XI.J.19 Comment from Massport on § I.B.10 Best Management Practices Plan - BMP Plan for Identifying and Eliminating Fuel and Oil Sources (Pgs. 36-41): Subpart f. Fueling Aircraft - Refers to quantity of AV-1, which is aviation gasoline. Aviation gasoline is not used at Logan, the only fuel used at Boston Logan is JET-A. All references to AV-1 should be eliminated.

Response to Comments XI.J.17 – XI.J.19: The permit has been changed in accordance with these comments. All references to "AV-1" in the draft permit have been replaced by "JET-A" in the final permit. JET-A is a standard kerosene jet fuel which is a complex mixture of petroleum hydrocarbons. JET-A may contain fused polycyclic hydrocarbons as benzene solubles. No change to the permit conditions is necessary in order to monitor for the presence of JET-A instead of AV-1. See Response to Comment IV.F.1 – IV.F.5 for a discussion of Jet-A.

Change to permit: All references to "AV-1" in the draft permit have been replaced by "JET-A" in the final permit.

XI.J.20 Comment from Delta on § I.B.10: The Section I.B.10.f. requirement to document "any quantity" of fuel spilled is also overbroad and needlessly burdensome without reasonable benefit. Although the provision appropriately requires that all spills be cleaned up, the documentation requirement should be revised to only require documentation of spills that exceed a certain amount (e.g., spills over 10 gallons) so long as the spill did not reach the environment.

XI.J.21 Comment from United Airlines: Documenting "any quantity" fuel spills. (*Page 38 – Section I.B.10.f)* The Draft permit requires the permittees to document "any quantity" of fuel spilled. Although the provision appropriately requires that all spills be cleaned up, the documentation requirement should be revised to only require documentation of spills that exceed a certain amount (e.g., spills over 10 gallons), as long as the spill did not reach the environment.

Response to Comments XI.J.20 & XI.J.21: Massport and the Co-Permittees are required to document all spills, both major and minor, in the SWPPP records which shall be maintain for at least six years (see Part I.B.6.e.x of the permit). Both Massport and the Co-Permittees are required to report all major spills to the proper authorities in

accordance with local, state, and federal requirements. Co-Permittee(s) shall immediately alert Massport, after alerting the proper authorities, upon learning of a major spill, as described in Part I.B.10.f of the permit. In regards to deicing, Part I.B.7 of the final permit does not specifically require reporting of spills of deicer; however, as described in Response to Comment XI.G.16, any spill in excess of 5,000 pounds ethylene glycol is required to be reported under CERCLA.

The nearby storm water discharges shall be tested for pollutants contained in the material spilled, in the event that the spill has reached the storm water drain, within 24 hours from the spill and as directed by the EPA or the MassDEP during the clean up.

The permit has not been changed in accordance with these comments. Records of spills, both minor and major, should help to develop a better understanding of the sources of pollutants in the discharges from the airport. Documentation of all fuel spills will help to pinpoint the sources of potential oil and fuel contamination in the discharges from the airport.

See Response to Comment XI.F.1 – XI.F.2 for more information about actions in the event of a spill.

Change to permit: none.

XI.J.22 Comment from AirTran Airways: Page 29, item 7 c, states "Mass Port and each co-permittee is required to report spills equal to or exceeding the reportable quantity (RQ) levels specified at 40 CFR 110, 117, and 302 for each de-icing chemical that is released to the storm water drainage system and the environment." DAC operations include the application of de-ice and or anti-ice solution to the aircraft exterior and the subsequent run-off of that solution to the ramp surface. With the aforementioned stated, it is presumed that spills, as used in this context, will not include run-off of de-ice or anti-ice solution from aircraft exteriors, during DAC operations.

Response to Comment XI.J.22: Normal deicing operations, including run-off of deicing and anti-icing chemicals from aircraft exteriors, should not be reported as continuous releases. Such uses are authorized by this permit and are therefore not considered spills. Refer to Response to Comment XI.G.16 for more information concerning spills of deicer.

As discussed in Response to Comment V.D.2, Part I.B.7 of the permit has been replaced by language consistent with that of the MSGP-2000. Therefore, the requirement of Part I.B.7 in the draft permit, referred to in the above comment, has been removed from the final permit.

Change to permit: See Response to Comment V.D.2 for replacement of Part I.B.7 of the permit.

XI.J.23 Comment from Anjie Preston: Residents are also concerned that not all relevant pollutants, such as deicing fluids, oil spills, etc. are being monitored in a way to

discern if they are harmful to humans [aquatic life is covered by various rules and regulations]. Residents found out that not all spills are reported at all. That's totally unacceptable. All spills, large and small, need to be reported to residents in affected areas. Monitoring requirements for deicing seasons need to be more frequently monitored and averaged over specific time frames, especially whole effluent toxicity ("WET"). Discharging needs to be monitored before and after occurrences.

Response to Comment XI.J.23: Part I.B.6.e.v of the permit requires as part of the SWPPP a Spill Prevention and Response Procedure which states that, "The nearby storm water discharges shall be tested for pollutants contained in the material spilled, in the event that the spill has reached the storm water drain [as modified in Response to Comment XI.F.3 – XI.F.4], within 24 hours from the spill and as directed by the EPA or the MassDEP during clean up." Therefore, in the event of a spill, the discharges will be tested. Furthermore, the discharges will be monitored in the absence of spills according to the provisions set forth in the permit. Therefore, monitoring will occur at times when there are no spills.

In response to the reporting of deicer spills, the BMPs implemented by the SWPPP for Identifying and Reducing Deicing and Anti-icing Sources, which replaces Part I.B.7 of the draft permit (refer to Response to Comment V.D.2), requires Massport and the Co-Permittees to track and report deicer use on a monthly basis and to develop BMPs to address discharges of deicer. These BMPs will address the concerns with the discharges of deicer. Additionally, Part I.B.8 of the permit requires the permittee and Co-Permittees to re-evaluate the SWPPP following completion of the water quality study and also following finalization of the Airport Deicing ELGs.

In response to fuel spills, Part I.B.10.f of the permit requires each Co-Permittee to develop a Standard Operating Procedure (SOP), which shall include procedures for responding to minor spills (less than Reportable Quantities (RQs) as defined by 40 C.F.R § 302.4) as well as major spills (greater than or equal to RQs). Additionally, any major spill shall be reported within 2 hours to the proper authorities in accordance with local, state, and federal requirements and managers for a Co-Permittee shall immediately alert the Environmental Representative (see Response to Comment XI.C.7) for Massport, after alerting the proper authorities, upon learning of a major spill. Minor spills are not required to be reported, however Part I.B.10.f. of the permit states that the SOPs must require the documentation of "any quantity" of fuel spilled.

While spills are not required to be reported to the public, when spills are reported to EPA and MassDEP, the reported information is available for review by the public.

In response to monitoring in order to determine human health concerns, Part II of the permit, General Conditions Part D.1.e(1), currently requires Massport to notify EPA and MassDEP of "any noncompliance which may endanger health or the environment…within 24 hours from the time the permittee becomes aware of the circumstances…A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances." Massport will also be required to notify

the Boston Public Health Commission, City of Boston Environment Department, and the Winthrop Town Manager's office in the case of this event. Refer to Response to Comment III.E – III.F and addition to permit at Part I.A.20.

Change to permit: See Response to Comment III.E – III.F for addition of Part I.A.20 of the permit.

XI.J.24 Comment from Anjie Preston: Permittee, Massachusetts Port Authority ("MassPort"), its co-permittees and other tenants [such as car rental and food preparation establishments] need to be held responsible for all activities surrounding storm water, discharges, deicing seasons, spills and any other harmful environmental conditions. They need to perform record keeping on all their activities and report them to relevant agencies, like the U.S. EPA, Massachusetts Dept. of Environmental Protection's Bureau of Waste Prevention, Clean Waters Action, Massachusetts Water Resource Authority, etc. It is unacceptable that MassPort, its co-permittees and other tenants are not required to report environmental problems, nor keep records on their activities with relation to the environment including discharges and spills. Developing the BMP Plan is a good start [so] long as MassPort meets this requirement on a regularly predetermined basis and are penalized for not doing so.

Response to Comment XI.J.24: Narrative permit conditions, such as the requirement to develop a SWPPP and BMPs, are equally as enforceable as numerical permit limitations. Refer to Response to Comment II.B.5 concerning enforcement of permit violations. The SWPPP required by the permit will develop enforceable BMPs for both Massport and the Co-Permittees.

Refer to Response to Comments III.E – III.F concerning notification of the Boston Public Health Commission, City of Boston Environment Department, and the Winthrop Town Manager's office by Massport of "any noncompliance which may endanger health or the environment." Additionally, Massport shall make the results of its monitoring available on its web site and provide a copy of each report (including all environmental reports) to the City of Boston and the Town of Winthrop (to the specific organizations listed above). Refer to Response to Comment I.A.3 concerning the requirement for Massport to keep records of their activities. All records of inspections, maintenance activities, and observations during site inspections must be maintained on site for six years.

Change to permit: none.

XI.J.25 Comment from Massport on § I.B.10 Best Management Practices Plan - BMP Plan for Identifying and Eliminating Fuel and Oil Sources (Pgs. 36-41):
Subpart g. Best Management Practices for Fueling Practices - In several places throughout the section, it states that GSE maintenance activities shall be performed indoors. Due to the limited space available at the airport and regulations of the Fire Marshal, maintenance on certain vehicles must take place outside. An attempt is always made to conduct maintenance indoors; however, this is not always possible. Language should be modified to state "whenever possible" maintenance should be conducted indoors. Also, there are several minor maintenance activities that do not threaten to

release pollutants that are routinely conducted outdoors (e.g., headlight, taillight changes, wiper blade changes, changing a flat tire). Section should also be modified to allow certain minor maintenance activities that do not threaten to release pollutants to be conducted outdoors.

XI.J.26 Comment from Delta: The requirements in Section I.B.10. that prohibit the performance of all maintenance activities outdoors is overbroad. As written, the requirement makes no exception for maintenance activities that do not have the potential for a release of pollutants. As such, the permit would require maintenance activities, such as headlight or taillight changes, wiper blade changes, or changing a flat tire, which involve absolutely no risk of a release, to be performed indoors. Therefore, at a minimum, the requirement should be revised to apply only to those activities that present a risk of a release. However, even if the indoor maintenance requirement is so tailored, the requirement would still fail to take into account several important implications of requiring maintenance to be performed indoors. First, Fire Marshall regulations require certain maintenance activities to take place outside. Second, due to space limitations at the airport, some outdoor maintenance maybe necessary even though certain activities may involve some minimal risk of a release. Due to these considerations, and in light of the various precautions available to contain any releases that may occur, the permit should allow maintenance activities to be performed outdoors to the extent required by other regulatory requirements or necessary due to unavoidable circumstances.

XI.J.27 Comment from Continental Airlines: Pg. 38.10.h – pg.40. = This section states that equipment maintenance activities shall be performed indoors. Do to space constraints, this is not always possible. The language should be modified to state "Whenever possible' maintenance that threatens the release of pollutants should be conducted indoors. Thus modifying and allowing certain maintenance activities that do *not* threaten the release of pollutants, such as tire repair.

XI.J.28 Comment from JetBlue Airways: Likewise, it is incorrect to assume that all ground service equipment (GSE) maintenance will be performed indoors. Due to limited space available at the airport, all GSE maintenance can not be performed inside.

XI.J.29 Comment from Swissport (RECEIVED LATE): Page 38 h and Page 40 B.10.i. In several places throughout the section, it states that GSE maintenance activities shall be performed indoors. Due to the limited space available at the airport and regulations of the Fire Marshal, maintenance on certain vehicles must take place outside. An attempt is always made to conduct maintenance indoors; however, this is not always possible. Language should be modified to state "whenever possible" maintenance should be conducted indoors. Also, there are several minor type activities that do not threaten to release pollutants that are routinely conducted outdoors (e.g., headlight, taillight changes, wiper blade changes, changing a flat tire). Section should also be modified to allow certain minor maintenance activities that do not threaten to release pollutants to be conducted outdoors.

XI.J.30 Comment from United Airlines: Aircraft and Ground Support Equipment (GSE) Maintenance Locations. (*Page 38-Section B.10.h.; Page 40-Section B.10.i).* The Draft permit requires all GSE maintenance activities to be performed indoors and requires all but minor aircraft maintenance to conducted indoors. We believe such requirements are unreasonable and overly burdensome without considering (1) the very limited amount of hangar space at Logan International Airport (2) how such restrictions may impact the safe and efficient operation of the Airport, and (3) the types of BMPs that airlines may apply to reduce potential impacts of outdoor maintenance. We believe EPA should include language consistent with the MSGP that was developed by EPA as a national standard. This would mean replacing the language "shall occur" as stated on pages 39 and 40 of the Draft Permit with the language "[c]onsider conducting maintenance activities indoors at designated maintenance facilities." If EPA moves forward in including a mandate regarding those activities that can or cannot be performed outside, United requests that, in developing an appropriate Permit definition, the EPA work with the airlines to more fully understand both the types of maintenance operations conducted and the types of BMPs commonly utilized to reduce discharges from maintenance activities.

Response to Comments XI.J.25 – XI.J.30: Part I.B.10.i of the permit, Automotive and Ground Service Equipment (GSE) Maintenance Activities, has been changed to be consistent with Part I.B.10.h the Aircraft Maintenance Activities at Hangars. Additionally, a provision has been added to both parts of the permit to allow adherence with any applicable Fire Marshall regulations which require certain activities to be performed outside as stated in the above comments. The provision requires documentation of the emergency or compelling circumstance (such as adherence with Fire Marshall Regulations) and details of the related maintenance activity. Also, in both parts, the phrase "no fluid changes are permitted outside" has been replaced with "fluid changes are not considered to be minor maintenance" to ensure that in the case of emergency or other compelling circumstance, a fluid change could be permitted outside, if justified and the reasons documented.

Part I.B.10.i of the permit now reads as follows:

> Automotive and ground service equipment (GSE) maintenance activities performed on airport property shall be performed indoors in maintenance garages or maintenance facilities, except in case of an emergency or other compelling circumstances or in the case of minor activities described below. No maintenance activities shall be performed on terminal aprons at any time, except in case of emergency. The emergency or compelling circumstance and details of the maintenance activity shall be documented in the SWPPP files. Minor maintenance activities are permitted outdoors. Minor maintenance activities include addition of fluids, changing tires, batteries and hoses, and other maintenance activities that do not produce the potential for release of pollutants. Fluid changes are not considered to be minor maintenance. Major maintenance is permitted indoors. Major maintenance includes fluid changes, engine repairs, and engine disassembly.

An addition has been made to Part I.B.10.h of the permit as follows:

> Major maintenance activities shall be performed indoors, except in case of an emergency or other compelling circumstances. The emergency or compelling circumstance and details of the maintenance activity shall be documented in the SWPPP files.

Also, the phrase "no fluid changes are permitted outside" has been replaced with "fluid changes are not considered to be minor maintenance."

Change to permit: Part I.B.10.i and Part I.B.10.h, see above Response to Comment.

XI.J.31 Comment from US Airways: Section B, paragraph 10.g.vi. BMP Plan for Identifying and Eliminating Fuel and Oil Sources (page 38 of 43) Best Management Practices for Fueling Practices – Posting information on catch basins, such as "Do Not Dump. Leads to Boston Harbor" should be a MASSPORT sole responsibility. In some cases passenger boarding gates are shared by Co-Permittees, and in other cases catch basins are located between Co-Permittees leaseholds which could lead to confusion on whose responsibility it is to label the drains. "MASSPORT, as owner operator of the airport facility and the stormwater system, is ultimately responsible for the discharges from their stormwater sewer system to water for the United States (60 FR 51103, Sept 29, 1995)." Part I.A.9 (page 19 of 43) NPDES

XI.J.32 Comment from AirTran Airways: Page 38, item 10 g, states "co-permittees must implement the BMP applicable to their facility and specific operations." Page 38 item 10 g vi, states, "post information, such as, Do not Dump, Leads to Boston Harbor, by catch basins and other inlets that convey storm water within 100 yards of any aircraft fueling location." It is presumed, that placards designed and procured by co-permittees will be consistent in appearance and installed in appropriate locations. It is also presumed that co-permittees will have access to all areas within 100-yards of their fueling operations. If aforementioned presumptions are incorrect, suggest revising permit to assign responsibility of designing, procuring, and installing placards to Mass Port.

Response to Comments XI.J.31 – XI.J.32: Parts I.B.10.g.vi, of the permit has been changed to clarify that Massport is responsible for posting the information, such as "Do not Dump. Leads to Boston Harbor," at the appropriate catch basins. The other requirements regarding this BMP (at Parts I.B.10.h.xiv.and I.B.10.i.xv) are not required in advance to be *implemented* by this permit, but are required to be *considered* by the permittee/Co-permittee performing Aircraft Maintenance at Hangers (Part I.B.10.h.xiv) and/or Automotive and GSE Maintenance Activities (Part I.B.10.i.xv). Therefore, the Co-Permittees shall *consider*, through development of BMPs, posting the information based on site access, cooperation with Massport, and any other applicable factors.

Change to permit: Part I.B.10.g.vi now begins with, "Massport shall post information…"

XI.J.33 Comment from Massport on § I.B.10 Best Management Practices Plan - BMP Plan for Identifying and Eliminating Fuel and Oil Sources (Pgs. 36-41): Subpart i. Automotive and Ground Service Equipment Maintenance Activities (includes

washing) - Massport requests that the requirement to crush oil filters (and oil containers) be removed since it is excessive without clear benefit. Current standard practice mandates that oil filters be drained before recycling in leak proof containers in secondary containment indoors. This should be a voluntary initiative, not a mandated requirement.

XI.J.34 Comment from Delta on § I.B.10: The requirement to crush oil filters and oil containers is also excessive without clear benefit. Current standard practice requires oil filters to be drained and recycled indoors in leak proof containers with secondary containment. These procedures are sufficient; therefore, any additional requirement to crush oil containers and filters is redundant and should be recommended as a voluntary procedure at most.

XI.J.35 Comment from US Airways: Section B, paragraph 10.i.xi. BMP Plan for Identifying and Eliminating Fuel and Oil Sources (page 41 of 43) Automotive and Ground Service Equipment Maintenance Activities – The requirement to crush oil filters (and oil containers) is excessive without clear benefit. Current standard practice mandates that oil filters be drained before recycling in leak proof containers in secondary containment indoors. This should be a voluntary initiative, not a mandated requirement.

XI.J.36 Comment from United Airlines: Requirement to Crush Oil Filters and Oil Containers. *(Page 41 – Section I.B.10.i.)* The Draft permit requires permittees to "drain and crush oil filters (and oil containers) before recycling or disposing." We do not believe this requirement should be mandated, but, rather, presented for consideration in the individually developed BMPs.

Response to Comments XI.J.33 – XI.J.36: The permit has been changed in accordance with these comments. The requirement to crush oil filters (and oil containers) has been removed from the permit. Part I.B.10.i.xi of the draft permit which read, "Drain and crush oil filters (and oil containers) before recycling or disposing. Store crushed oil filters and empty lubricant containers…" has been replaced with, "Store oil filters and empty lubricant containers…"

Change to permit: Part I.B.10.xi, see above.

XI.K. Comments related to BMP Plan for Rubber Removal Sources

XI.K.1 Comment from Massport on § I.B.11 Best Management Practices Plan - BMP For Minimizing and Eliminating Rubber Removal Sources (Pgs. 41-42): Massport requests that EPA reword the title to "BMP for Minimizing Discharges from Rubber Removal Activities." Eliminating rubber removal sources is not feasible as it is required to maintain required coefficient of friction on the runways.

XI.K.2 Comment from Delta on § I.B.11: As with the title of several sections of the Permit, the title of Section 1.B.11 is inappropriate in that it will not be technically feasible to completely eliminate all potential rubber removal sources as rubber removal at the airfield is simply unavoidable. As noted above, EPA regulations limit EPA's authority

with respect to airport operations not specifically authorized at 40 C.F.R. §122.26(b)(14)(viii). Delta recommends that the requirements be removed, in the alternative the title of Section 1.B.II should be revised to "BMP for Minimizing and Reducing Rubber Removal Sources."

Response to Comments XI.K.1 – XI.K.2: The word "eliminating" has been replaced with "reducing" and the word eliminate has been replaced with "reduce" throughout various parts of the permit. Refer to Response to Comment XI.J.4 concerning CWA jurisdiction.

Change to permit: None, but see Response to Comments XI.J.1-3 for explanation of replacement of "eliminate" with "reduce" and "eliminating" with "reducing."

XII. CO-PERMITEES

XII.A Comment from LSG Sky Chefs: Due to an oversight, facility management inadvertently certified that our company met the requirements to obtain an individual permit or a general permit. LSG Sky Chefs respectfully requests to be de-listed as a co-permittee based on the following reasons:

Co-Permittee at Logan Defined:

A company meets the definition of Co-Permittee if the company performs industrial activities…classified under Standard Industrial Classification (SIC) 45…

LSG Sky Chefs primary SIC Code is 5812, Eating Places.

Furthermore, a Co-Permittee includes a company that performs industrial activities…as defined in the NPDES Stormwater Multi-Sector General Permit for Industrial Activities.

LSG Sky Chefs is conditionally excluded from and is not required to obtain coverage under the NPDES Stormwater Multi-Sector General Permit.

For air transportation companies the industrial activities include "servicing, repairing or maintaining aircraft and ground vehicles…"

LSG Sky Chefs is not an air transportation company (SIC 45)

Although we respectfully request to be de-listed as a co-permittee to the Logan NPDES Permit, LSG Sky Chefs is committed to improving the quality of our stormwater discharge at Logan International Airport. We continue to follow Best Management Practices (BMP's) in order to negate our stormwater impact. As an example, this facility recently contracted to a third party to perform our fleet vehicle maintenance. These vehicle maintenance activities are performed off-site by Penske Truck Leasing Company, LP.

At your request, Attachment B of the previously stated letter to Mr. Kurt Lavery has been appropriately certified and is attached for your review.

Response to Comment XII.A: LSG Sky Chefs has been removed from the list of Co-Permittees in the permit based on its submission of the Logan Certification as a Non-Co-Permittee, certified under penalty of law, verifying that it does not meet the requirements to be included as a Co-Permittee in the permit.

However, it should be noted that Part I.B.2 of the permit states that those tenants which are not defined separately as having storm water discharges associated with industrial activity under 40 C.F.R. §122.26(b)(14), such as car rental and food preparation establishments, must be addressed by private agreements through contracts with Massport to ensure that the SWPPP for Logan addresses storm water contamination from these types of tenants (60 FR 51104, Sept. 29, 1995).

Change to permit: Remove LSG Sky Chefs from the list of Co-Permittees in the permit.

XII.B Comment from Massport: Additional Logan operators who reportedly perform fueling, maintenance, or lav servicing on the airfield and may need to be added as Logan NPDES co-permittees are: One Source, Oxford Airport Technical Services, Aramark Servicemaster, FMC Technologies Inc., Siemens Energy and Automation Inc, and ASTAR.

Response to Comment XII.B: In response to this comment from Logan, EPA sent 308 letters to the potential Co-Permittees listed in the above comment. The responses are summarized below.

Change to permit: none.

XII.C Comment from Oxford Airport Technical Services: Oxford Airport Technical Services returned the Logan Storm Water Co-Permittee Application and verified that they perform vehicle maintenance/aircraft maintenance including servicing, repairing, or maintaining aircraft and ground vehicles, and equipment cleaning and maintenance (including vehicle and equipment rehabilitation mechanical repairs, painting, fueling, and lubrication).

Response to Comment XII.C: Oxford Airport Technical Services has been added to the list of Co-Permittees in the final permit.

Change to permit: Add Oxford Airport Technical Services to the list of Co-Permittees.

XII.D Comment from FMC Technologies – Airport Services: FMC Technologies – Airport Services returned the Logan Storm Water Co-Permittee Application and verified that they perform vehicle maintenance/aircraft maintenance including servicing, repairing, or maintaining aircraft and ground vehicles, and equipment cleaning and

maintenance (including vehicle and equipment rehabilitation mechanical repairs, painting, fueling, and lubrication).

Response to Comment XII.D: FMC Technologies – Airport Services has been added to the list of Co-Permittees in the final permit.

Change to permit: Add FMC Technologies – Airport Services to the list of Co-Permittees.

XII.E Comment from ASTAR Air Cargo, Inc.: ASTAR Air Cargo, Inc. returned the Logan Storm Water Co-Permittee Application and verified that they perform vehicle maintenance/aircraft maintenance including servicing, repairing, or maintaining aircraft and ground vehicles, and equipment cleaning and maintenance (including vehicle and equipment rehabilitation mechanical repairs, painting, fueling, and lubrication).

Response to Comment XII.E: ASTAR Air Cargo, Inc. has been added to the list of Co-Permittees in the final permit.

Change to permit: Add ASTAR Air Cargo, Inc. to the list of Co-Permittees.

XII.F Comment from OneSource Facility Services: OneSource Facility Services returned the Logan Storm Water Co-Permittee Application and verified that they perform deicing/anti-icing operations, handling of aircraft lavatory waste or any other sanitary waste device not directly piped to a Publicly Owned Treatment Works, and vehicle maintenance/aircraft maintenance including servicing, repairing, or maintaining aircraft and ground vehicles, and equipment cleaning and maintenance (including vehicle and equipment rehabilitation mechanical repairs, painting, fueling, and lubrication).

Response to Comment XII.F: OneSource Facility Services has been added to the list of Co-Permittees in the final permit.

Change to permit: Add OneSource Facility Services to the list of Co-Permittees.

XII.G Comment from Aramark Aviation Services Limited Partnership: Aramark Aviation Services Limited Partnership returned the Logan Storm Water Co-Permittee Application and verified that they perform handling of aircraft lavatory waste or any other sanitary waste device not directly piped to a Publicly Owned Treatment Works.

Response to Comment XII.G: Aramark Aviation Services Limited Partnership has been added to the list of Co-Permittees in the final permit.

Change to permit: Add Aramark Aviation Services Limited Partnership to the list of Co-Permittees.

XII.H Comment from Siemens Energy and Automation, Inc.: Siemens Energy and Automation, Inc. returned the Logan Certification as a Non-Co-Permittee and verified

that they do not meet the requirements to be included as a Co-Permittee in the final permit.

Response to Comment XII.H: Siemens Energy and Automation, Inc. has not been added to the list of Co-Permittees in the final permit based on its submission of the Logan Certification as a Non-Co-Permittee, certified under penalty of law, verifying that it does not meet the requirements to be included as a Co-Permittee in the permit.

Change to permit: none.

XII.I Comment from MA Riverways: Adding co-permittees to the permit provides the legal incentive for better adherence to the best management practices developed to prevent undue release of pollutants into the harbor and bay and will be a significant management and educational tool.

Response to Comment XII.I: EPA agrees with the comment from Riverways that addition of the Co-Permittees to the permit will increase the legal incentive for adherence to the BMPs required by the permit.

Change to permit: none.

XIII. GENERAL COMMENTS FROM PERMITEE AND CO-PERMITTEES

XIII.A Comment from Massport: The Massachusetts Port Authority (Massport) provides the following comments on the Environmental Protection Agency's (EPA) July 25, 2006, draft National Pollution Discharge Elimination System (NPDES) permit (Draft Permit) and accompanying Fact Sheet for Logan International Airport (the Airport).

Commercial aviation is a complex industry comprising multiple parties with numerous responsibilities. While Massport's primary responsibility is the safety and security of the air traveling public, Massport is also committed to being a responsible corporate citizen and good neighbor by working to minimize the impact of its operations on the neighboring communities and the environment. Massport has worked with industry partners - airlines, fixed-base operators, and other tenants - to address a wide range of environmental issues facing airports. For example, Massport is the first airport in the world to construct an airport terminal building, Terminal A, that has received the Leadership in Energy and Environmental Design (LEED) certification by the United States Green Building Council. Further, during the past few years, Massport has implemented ISO 14001-certified Environmental Management Systems at a number of its facilities, including the Airport, designed to promote continual environmental improvement.

Massport is committed to continued environmental leadership. At the same time, Massport must carefully consider and balance the costs of these programs with the environmental benefits. So, too, must EPA. Because all costs related to Massport's storm

water program at the Airport are directly charged to the carriers, Massport must develop a cost effective storm water program that will not overburden an already burdened aviation industry only now on the verge of recovery. This requires a thorough understanding of the environmental issues and impacts of the Airport's storm water discharges generally and its deicing and anti-icing activities in particular, as well as the potential benefits of additional storm water control measures.

Massport looks forward to working with EPA and the Massachusetts DEP (MADEP) to develop an effective and workable NPDES permit. Massport is primarily concerned about the Draft Permit's requirements regarding deicing and anti-icing chemicals (DAC) at the Airport, which are unreasonable and unworkable and unsupported by the available data. Additional studies are required to determine what, if any, additional measures might be needed for an effective DAC program. Further, there are several significant and ongoing federal initiatives that are expected to soon impact how DAC operations are conducted and regulated, and the Draft Permit does not recognize these important activities and their potential outcomes. Massport is concerned that by finalizing the permit as drafted, Massport will not be able to adjust to these future developments and may be required to develop unnecessary and inappropriate DAC controls. Accordingly, Massport offers its general comments on the Draft Permit's DAC requirements and presents an alternative proposal that approaches the DAC issues in a principled and effective way. Massport then provides its section-by-section comments…For the foregoing reasons, the Draft Permit should not be issued as the final NPDES permit for the Airport. The final permit should include the changes requested and adopt the alternative proposal by Massport in this comment letter.

XIII.B Comment from Delta: Delta Air Lines ("Delta") is providing the enclosed comments regarding the United States Environmental Protection Agency's ("EPA") draft National Pollutant Discharge Elimination System ("NPDES") storm water permit (hereinafter "Draft Permit") for Logan International Airport ("Logan"). Delta appreciates the opportunity to submit comments on the Draft Permit.

Delta is committed to the protection of environmental resources and supports EPA's efforts to address pollutants in stormwater. However, as explained more specifically in the comments below, Delta is concerned that some portions of the Draft Permit, as currently written, misapply some NPDES permit regulations, resulting in permit conditions that are impractical, infeasible or inappropriate for airport operations. Delta is also very concerned about the very serious safety implications that could result from provisions addressing deicing and anti-icing chemicals ("DAC"), before EPA has completed its ongoing DAC analysis or notice and comment rulemaking to ensure complete understanding of DAC issues. Delta believes that inclusion of the DAC provisions in the Draft Permit is premature, undermines the rulemaking process, and is procedurally flawed in that the DAC provisions indicate a predisposition regarding DAC regulation before full review of the record and opportunity for due process and public participation. In the comments below, Delta requests several changes be included in permit based upon identified regulatory provisions, technical analysis resulting in more feasible conditions and improved exercise of best professional judgment.

XIII.C Comment from Delta: NPDES permit conditions must be based upon specific sources of statutory and regulatory authority. The Clean Water Act generally provides for two different kinds of permit effluent limits in a permit such as the Draft Permit for Logan: those based on the technology available to treat a pollutant, referred to in regulations and guidance as effluent limitation guidelines ("ELGs") or technology based effluent limitations ("TBELs"), and those necessary to protect the designated uses of the receiving water body, referred to in regulations and guidance as water quality based limitations ("WQBELs"). CWA §402 (incorporating §§302 304, 306 et al); 2001 EPA App. LEXIS 12, 10-13 (EPA App. 2001); 40 C.F.R. §122.44.

EPA has acknowledged that no ELGs have been promulgated for airport facilities, and recent EPA and Massachusetts Department of Environmental Protection ("MADEP") determinations under Section 303 of the CWA do not identify an impairment related to airport operations warranting WQBELs for the permit. Accordingly, the majority of the permit is based upon the Best Professional Judgment ("BPJ") of the permit writer and is not supported by any specific EPA regulation or determination. In applying BPJ, the permit writer derived conditions from completely different industries with completely different processes and engineering aspects (Petroleum Refining Point Source Category at 40 C.F.R. Part 419, Rail Transportation, Oil Terminals, Diesel Tank Farm). We do note that one airport of vastly different proportion and operation was cited. In applying BPJ, the Fact Sheet does not demonstrate any consideration of the numerous factors appropriate for BPJ determinations. For airport operations, it is critical that EPA consider factors such as safety, reasonableness, and cost. In attempting to apply BPJ, information from the Fact Sheet indicates that EPA has not performed an adequate analysis and applied the appropriate factors established by the CWA and its implementing regulations. Delta submits that, if a complete analysis of factors required for BPJ analysis were included, Draft Permit conditions would be much different and appropriately address airport operational needs while protecting the environment. Use of BPJ in the manner applied to the Draft Permit is particularly inappropriate under the current circumstances where EPA is considering, but has not yet taken public comment or promulgated, regulations addressing DAC.

Response to Comment XIII.A – XIII.C: See Response to Comments V.C.1 – V.C.3 concerning safety, Response to Comments V.E.11 – V.E.13 concerning reasonableness of requiring monitoring, Response to Comments V.B.4 – V.B.7 concerning cost analysis and BAT/BCT analysis, Response to Comments V.B.8 – V.B.11 concerning the proposed ELG for Airports.

Change to permit: As noted in the above Response to Comments.

XIII.D Comment from US Airways: The NPDES permit establishes legally enforceable requirements, and because violations can result in both civil and criminal penalties, it is important that the permit conditions be feasible. Airport deicing operations are unique since their operations are regulated by the Federal Aviation Administration (FAA) and ultimate concern for human safety. However during winter operations FAA rules for

aircraft safety and EPA's regulations for stormwater management often conflict. A successfully permit will consider several key factors:

> The safety of passengers, crews, and aircraft cannot be compromised.
>
> Only a few options exist for FAA approved and SAE certified deicing/anti-icing materials.
>
> NPDES permits issued without consideration of the unique circumstances of airports' winter operations will result in unnecessary conditions and unattainable compliance.

Response to Comment XIII.D: Refer to Response to Comments V.C.1 – V.C.3 concerning FAA requirements and considerations of flight safety.

Change to permit: As noted in the above Response to Comments.

XIII.E Comment from Continental Airlines: Continental Airlines, Inc., (Continental), provides the following comments on the Environmental Protection Agency's July 25, 2006 draft National Pollution Discharge Elimination System (NPDES) permit ("Draft Permit"). Continental takes environmental compliance responsibilities very seriously, and has continuously worked within the industry and with airports to address environmental issues including stormwater.

As with all airports Continental operates at, it is part of our corporate environmental culture to thoroughly evaluate potential pollution sources at the site, select and implement measures designed to prevent the discharge of any pollutants. We initiate practices such as employee training, preventative maintenance of equipment, good housekeeping, facility inspections and Spill Prevention, Control & Countermeasure plans. All of these practices embrace a culture of employee awareness which can have a profound and positive effect on Pollution Prevention.

Response to Comment XIII.E: EPA acknowledges the Co-Permittee's comment that it takes "environmental compliance responsibilities very seriously."

Change to permit: none.

XIII.F Comment from JetBlue Airways: JetBlue Airways Corporation submits these comments in response to the United States Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) draft Permit for Logan International Airport ("Logan"). JetBlue is concerned as to the EPA's efforts to regulate in an area that is regulated so heavily by the Federal Aviation Administration. As the EPA is no doubt aware, airline operations should not be curtailed or modified without demonstrated environmental benefits. While we applaud EPA's continuing efforts to ensure protection of the ecosystem and environment, even if the EPA has jurisdiction to regulate in an area that impacts airline deicing, we are concerned that the draft Permit is

based on outdated information, flawed assumptions, and is inconsistent with what is being required at other large airports across the United States.

Response to Comment XIII.F: See Response to Comments V.C.1 – V.C.3 concerning FAA requirements and considerations of flight safety and Response to Comments V.D.2 concerning the replacement of the deicer requirements in the draft permit with language consistent with the MSGP-2000 SWPPP.

Change to permit: As noted in the above Response to Comments.

XIII.G Comment from Massport: Logan International Airport is New England's primary domestic and international airport. The Airport is principally an origin-destination airport, not a connecting hub for major airlines. The Airport plays a key role in the metropolitan Boston and New England passenger and freight transportation networks and is a significant contributor to the regional economy. In 2005, the Airport handled over 27.5 million passengers on 400,000 flights, averaging over 1000 flights per day.

The Airport boundary encompasses approximately 2,400 acres in East Boston and Winthrop, including 700 acres of Boston Harbor. The airfield comprises five runways, fourteen miles of taxiway, and approximately 240 acres of concrete and asphalt apron. Construction of a sixth runway, the 5,000 foot unidirectional Runway 14-32 will be complete in November 2006. The Airport has four passenger terminals with over 100 gate positions for scheduled and nonscheduled service. The Airport is severely land constrained and Massport has programmed its land uses to optimize the efficiency of airport operations.

The Airport is surrounded by Boston Harbor on three sides (north, east and south) and East Boston to the west. According to studies from Massachusetts Water Resources Authority (MWRA), Boston Harbor is generally well flushed by strong tides. The average residence time of water in Boston Harbor is short; all harbor waters are replaced, on average, by ocean and river waters every five to seven days (www.mwra.state.ma.us/harbor/html/soh20027.htm). In fact, Boston Harbor water quality has been steadily improving for a number of years.

The primary storm water discharge from the Airport is through the four major outfalls, Porter Street, Maverick Street, North and West outfalls. The North and West Outfalls have end-of-pipe pollution control facilities for the removal of debris and floating oils prior to discharge into Boston Harbor. The Porter and Maverick Street Outfalls do not have end-of-pipe treatment because they are combined sewer overflows for the Boston Water and Sewer Commission.

Response to Comment XIII.G: EPA has taken this information into consideration throughout the Response to Comments Document.

Change to permit: none.

RESPONSE TO COMMENTS – ATTACHMENT A

BAT/BCT ANALYSIS

BAT and BCT Analysis - NPDES Permit No. MA0000787 (Massachusetts Port Authority and the Co-Permittees of Logan International Airport)

When setting permit limitations using Best Professional Judgement, when it is necessary to meet the BAT and BCT standards, EPA is guided by the specific factors listed in 40 C.F.R. § 125.3(d) (and the statute). EPA has conducted an analysis using these factors, regarding the requirements in Part I.B. of the Logan Airport NPDES permit (No. MA 0000787), regarding the development of a Storm Water Pollution Prevention Plan (SWPPP) and the development of Best Management Practices (BMPs). The EPA does not necessarily agree that such an analysis is required at this time, for the reasons explained in Response to Comments V.B.4 – V.B.7; nevertheless, such an analysis has been done.

The factors to be considered are the following:

For Best Available Technology Economically Achievable (BAT) requirements:

i.) The age of the equipment and facilities involved;
ii.) The process employed;
iii.) The engineering aspects of the application of various types of control techniques;
iv.) Process changes;
v.) The cost of achieving such effluent reductions; and
vi.) Non-water quality environmental impact (including energy requirements).

For Best Conventional Pollutant Control Technology (BCT) requirements:

i.) The reasonableness of the relationship between the cost of attaining a reduction in effluent and the effluent reduction benefits derived;
ii.) The comparison of the cost and level of reduction of such pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources;
iii.) The age of equipment and facilities involved;
iv.) The process employed;
v.) The engineering aspects of the application of various types of control techniques;
vi.) Process changes; and
vii.) Non-water quality environmental impact (including energy requirements).

Therefore in order to do a BAT/BCT analysis, the following must be considered:

i.) The reasonableness of the relationship between the cost of attaining a reduction in effluent and the effluent reduction benefits derived (BCT);
ii.) The comparison of the cost and level of reduction of such pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources (BCT);
iii.) The age of equipment and facilities involved (BAT/BCT);
iv.) The process employed (BAT/BCT);

v.) The engineering aspects of the application of various types of control techniques (BAT/BCT);
vi.) Process changes (BAT/BCT);
vii.) Non-water quality environmental impact (including energy requirements) (BAT/BCT); and
viii.) The cost of achieving such effluent reductions (BAT).

The following is the analysis of the factors:

i.) The reasonableness of the relationship between the cost of attaining a reduction in effluent and the effluent reduction benefits derived (BCT):

This part of the analysis is a Best Conventional Pollutant Control Technology (BCT) requirement. As specified under the Clean Water Act, conventional contaminants include total suspended solids (TSS), fecal coliform, biochemical oxygen demand (BOD), pH, and oil and grease (40 C.F.R. § 401.16). BMPs to be developed pursuant to the following parts of the final permit should help to regulate these conventional pollutants: identification and reduction of deicing and anti-icing sources (which relates to BOD), potential bacteria sources (which relates to fecal coliform), fuel and oil sources (which relates to oil and grease), and rubber removal sources (which relates to TSS). The conventional pollutant of pH also is regulated by the permit; however, the final permit establishes an effluent limitation based on the Massachusetts Surface Water Quality Standards 314 CMR 4.05(4)(b)(5), rather than BCT. Also, the permit requirement to remove illicit connections in order to control bacteria/fecal coliform is based on the separate statutory requirement of CWA 402(p)(3)(B)(ii).

The costs associated with developing the SWPPP and developing the BMPs are expected to be reasonable compared to the benefits of reducing conventional pollutants expected in the discharge from the airport, for the reasons explained below.

This permit borrows from the BAT/BCT analysis determinations used when developing the original regulatory requirements for storm water discharges associated with industrial activities under EPA's General Permits. In a 1992 determination EPA stated that "EPA has determined that all the components of the storm water pollution prevention plan required under today's permits are necessary to reflect BAT/BCT." See 57 FR 41265, Sept. 9, 1992. Additionally in 1995, EPA made a similar determination when promulgating the Multi-Sector General Permit for Industrial Activities (See 60 FR 50804, Sept. 29, 1995) ("MSGP 1995"). EPA stated that, "EPA believes the pollution prevention approach is the most environmentally sound and cost-effective way to control the discharge of pollutants in storm water runoff from industrial facilities," See 60 FR 50815, Sept. 29, 1995. As noted by EPA, "This position is supported by the results of a comprehensive technical survey EPA completed in 1979" (*Storm Water Management for Industrial Activities*, EPA, September 1992, EPA 832-R-92-006). The survey found that two classes of management practices are generally employed at industries to control the non-routine discharge of pollutants from sources such as storm water runoff, drainage from raw material storage and waste disposal areas, and discharges from places where spills or leaks have occurred. The first class of management practices are those that are low in costs, applicable to a broad class of industries and substances, and widely

considered essential to a good pollution control program. Some examples of practices in this class are good housekeeping, employee training, and spill response and prevention procedures. The second class includes management practices that provide a second line of defense against the release of pollutants. This class addresses containment, mitigation, and cleanup. Since publication of the 1979 survey, EPA has imposed management practices and controls in NPDES permits on a case-by-case basis. The Agency also has continued to review the appropriateness and effectiveness of such practices [footnote omitted], as well as the techniques used to prevent and contain oil spills. Experience with these practices and controls have shown that they can be used in permits to reduce pollutants in storm water discharges in a cost-effective manner. In keeping with both the present and previous administration's objective to attain environmental goals through pollution prevention, pollution prevention has been and continues to be the cornerstone for the NPDES Permitting program for storm water." *Id.* at 50815.

In the Multi-Sector General Permit for Industrial Activities (MSGP 2000) (65 FR 64746, Oct. 30, 2000), EPA referred back to the determinations made in the 1992 baseline general permit and the MSGP 1995. In the MSGP 2000, EPA stated that only a few changes were made to the industry-specific requirements based on new information which was obtained since the issuance of the MSGP 1995. Changes were made to Sector S -Air Transportation Facilities (regarding control measures to be considered) based on additional technologies developed for deicing activities.

Based on the 1979 survey and other information developed and analysis done in connection with the General Permits, the similar approach being taken in the Logan permit imposes requirements that are cost-effective, and reasonable in terms of the relationship between the cost of attaining a reduction in effluent and the effluent reduction benefits derived.

In the Preamble Notice for the 1995 Final National Pollutant Discharge Elimination System Storm Water Multi-Sector General Permit for Industrial Activities, 60 Fed. Reg. 50804 (1995) (MSGP 1995), EPA estimated the costs of developing and implementing baseline storm water pollution prevention plans. The high cost estimates are applicable to development of baseline SWPPPs for larger, more complex facilities with more potential sources of pollutants, such as Logan Airport. The high-end costs for developing and implementing a plan were estimated to be approximately $120,000 (in 1992 dollars) for the first year. High-end annual costs for implementation were estimated to be approximately $18,000 (in 1992 dollars). Adjusting for inflation from 1992 to 2007, using the inflation calculator from the Bureau of Labor Statistics web site at www.bls.gov, the cost estimate for developing and implementing a SWPPP in 2007 is approximately $173,000 for the first year and an additional $26,000 for each subsequent year. In addition, since the MSGP estimation did not include the costs of pollution prevention measures for handling lavatory waste, an additional 15% was added to the estimate for the Logan permit. The final cost estimate for developing and implementing a storm water pollution prevention plan at Logan is thus estimated at $200,000 for the first year and about $30,000 for each subsequent year.

As discussed below, Massport has submitted substantially higher cost estimates than these EPA cost estimates. However, as also discussed below, the Massport estimates are over-

inclusive in that they include major expenses that will not be required pursuant to this permit, or are required by statutory requirements other than the BCT (or BAT) requirement. Also taking into consideration that Massport's estimate includes the costs associated with the implementation of BMPs that may occur pursuant to the permit, but which are not specifically required by the permit, while the EPA estimate described above is the cost associated with development and implementation of a baseline SWPPP, the difference between the estimates is understandable.

Removing the over-inclusive costs, and the costs associated with BMPs not specifically required by the permit, from Massport's cost estimates, in order to directly compare the Massport cost estimate of establishing a baseline SWPPP at Logan with the baseline cost estimate developed by EPA, the Massport cost estimate associated with development and implementation of the permit for the first year is $155,000 and the annual cost is $35,000. This is in the same range as the EPA final cost estimate for development and implementation of a baseline SWPPP at Logan of $200,000 for the first year and about $30,000 for each subsequent year. Whether the EPA estimate or the Massport estimate is correct, these costs are reasonably achievable for a facility of this size, and reasonable in relation to the benefits derived.

Massport Cost Estimates

In its comments on the draft permit, Massport estimated the operational costs for compliance with the draft permit to be approximately $1.8 million in the first year and almost $1 million each subsequent year (see Comment V.B.4 for Massport's cost estimates). This cost estimate includes $200,000 per year for outfall analytical monitoring, $150,000 per year for outfall continuous monitoring, $15,000 per year for compliance inspections, $20,000 per year for employee training, $600,000 per year for BMP implementation (drain cleaning, ramp cleaning, etc.), $45,000 to prepare the SWPPP, $10,000 to prepare the outfall sampling plan, $40,000 to prepare the Porter Street sampling plan and flow model, $15,000 to prepare the airfield outfall sampling plan, $700,000 for bacteria BMP implementation, and $75,000 to evaluate runway deicers. It does not include an estimate for operating and maintaining DAC control facilities. EPA believes Massport's cost estimate is over-inclusive. Due to a change from the draft permit to the final permit, the requirement for continuous monitoring ($150,000 per year) has been removed from the permit. Other monitoring will continue to be required by the permit, but these requirements are based on CWA section 308 rather than BCT. Also, the $700,000 of operational costs related to the removal of illicit connections should not be included in any BCT cost estimate, since the removal of illicit connections is due to a separate statutory requirement.

Furthermore, the particular BMPs and associated implementation costs outlined in the cost estimate by Massport are not specifically required by the permit. The BMPs outlined by Massport, however, may be appropriate as requirements to be set by the SWPPP. Indeed, if Massport actually intends to implement these measures, the BMPs suggested by Massport in its cost estimates show good initiative on the part of Massport regarding its plan for implementation of pollution reduction in the discharge from the airport. Massport proposes $600,000 per year for BMP implementation as the result of

cleaning 350,000 linear feet of storm drains over a 6 year cycle and 300 catch basins over a 3 year cycle.

Since these BMPs are not specifically required by the permit, the costs associated with the activities should not be assumed to be required, in the initial estimate of the cost to comply with BCT requirement. Rather, the costs of such items should be further analyzed by Massport (subject to EPA review) if and when Massport actually commits to implementing measures, as part of its SWPPP plan.

However, since implementation of such BMPs may become appropriate under the permit, the EPA has done a preliminary assessment of whether such costs would be appropriate in light of the BCT factors. Adjusting the operational cost estimate for removal of costs related to monitoring, and removal of costs related to removal of illicit connections, and keeping the costs associated with the BMPs discussed above, the estimated operational cost for compliance with the BCT requirements is approximately $ 755,000 the first year and $ 635,000 each subsequent year. This cost also appears to be reasonably achievable for a facility of this size, and reasonable in relation to the benefits derived.

Massport estimated the capital cost range for compliance with the draft permit to be approximately $77 million to $212 million. This cost estimate includes $3.75 million – $20 million for oil control BMPs (e.g. OWS, skimmers), $1.5 million – $5 million for bacteria BMPs (e.g. pipe replacement/repairs), $900,000 – $10.2 million for solids reduction BMPs (e.g. catch basin controls, solids settling units), $300,000 – $400,000 for receiving water quality assessment, and $70.65 million – $176.5 million for deicer collection/control BMPs.

The capital costs related to the removal of illicit connections ($2 million) should not be included in any BCT cost estimate, since the removal of illicit connections is due to a separate statutory requirement. The remaining $3 million estimated for costs associated with implementation of bacteria BMPs such as installation and operation of a disinfection system ($700,000), is not specifically required in the permit. However, if Massport actually intends to implement these measures, the suggested BMPs show good initiative on the part of Massport regarding its plan for implementation of pollution reduction in the discharge from the airport.

Additionally, the cost of deicer collection/controls ($70.65 million to $176.5 million of capital costs) should not be included in this BCT cost estimate, since this permit does not contemplate that Massport will implement this level of controls, unless they are shown to be necessary by the Water Quality Study or unless they are adopted as a national effluent guideline standard. Also, the approach of the General Permit (now adopted for deicer in this permit) is to require permittees to consider various control measures when developing their SWPPP, but without mandating in advance any particular measures.

The BMPs and associated implementation costs outlined in the cost estimate by Massport for solids removal and oil control are not specifically required by the permit. The permit requires the permittees to consider various control measures when developing their SWPPP to identify and reduce fuel and oil sources; however, the permit does not specifically require the installation of 100 oil/water separator units, which Massport has

assumed will be required in the high end cost estimate of $20 million. Additionally, the permit requires the permittees to consider various control measures when developing their SWPPP to identify and reduce rubber removal sources. However, the permit does not specifically require installation of 300 catch basin inserts and 34 solids settling Vortechnics-type units (with a high end cost estimate of $10.2 million). Thus Massport's cost estimate for both oil control BMPs and solids reduction required by the permit ($3.75 million – $20 million and $900,000 – $10.2 million, respectively) may be over-inclusive. However, if Massport actually proposes to implement these BMPs, which may be appropriate, then it shows a good initiative on the part of Massport to implement pollution controls regarding the discharges from the airport.

Finally, an aspect of Massport's capital cost estimate that is specifically required by the final permit, although not required in the draft permit, is the receiving water quality assessment ($300,000 – $400,000). However, this requirement is based on CWA section 308 rather than the BCT (or BAT) requirement.

In summary, most of the capital costs projected by Massport either will not be required pursuant to the permit or are mandated based on statutory requirements other than BCT (or BAT). Thus they should not be included in a BCT (or BAT) analysis. The other projected capital costs are not specifically required by the permit. Thus the costs associated with these activities should not be assumed to be required, in the initial estimate of the cost to comply with BCT requirement. Rather, the costs of such items should be further analyzed by Massport (subject to EPA oversight) if and when Massport actually commits to implementing measures, as part of its SWPPP plan.

However, since implementation of these BMPs may become appropriate under the permit, the EPA has done a preliminary assessment of whether such costs would be appropriate in light of the BCT factors. Massport's cost estimates for oil control BMPs ($3.75 million – $20 million), solids reduction BMPs ($900,000 – $10.2 million), and $3 million for bacteria BMPs (not related to removal of illicit connections) have been retained for purposes of this preliminary EPA analysis. But the total maximum capital cost associated with implementation of the permit has been reduced by removal of the cost associated with removal of illicit connections, the costs associated with deicer collection/control, and the costs associated with the Water Quality Study. Thus for purposes of the preliminary analysis, the EPA has assumed that capital costs that could be incurred by Massport to meet the BCT requirement in connection with this permit could total $7.65 - $33.2 million. While the EPA is not necessarily convinced that Massport actually intends to implement the high end of all that it has projected (e.g., by installing100 new water/oil separators), the EPA believes that doing so would be commendable. In any event, capital costs even in the $7.65 -$33.2 million range would seem to be reasonably achievable for a facility of this size, and reasonable in relation to the benefits derived.

In reference to the Co-Permittees, Massport stated that the total annual compliance cost for approximately 25 Co-Permittees is estimated to range between $62,000 and $675,000 for the development of pollution prevention plans and between $75,000 and $350,000 annually for employee training and site evaluations. This estimate is based on responses to a Massport survey and on the Co-Permittees' estimates, and represents the total costs to all of the 25 Co-Permittees (Massport estimated the number of Co-Permittees to be

between 22 and 27). The annual compliance cost per Co-Permittee is estimated to range between $2,500 and $27,000 for the development of pollution prevention plans and between $3,000 and $14,000 for employee training and site evaluations. These annual compliance costs are reasonably achievable and reasonable in relation to the benefits derived, as split between each Co-Permittee, since these cost ranges reflect the varying scope of each Co-Permittees' operations at the Airport. The Co-Permittees with sufficiently larger operations will likely incur higher annual compliance costs; however, they should be able to better afford these costs since size of operations is generally comparable to amount of resources.

The effluent reduction benefits expected due to implementation of the permit are reasonable in relation to the costs. The EPA's analysis of the likely costs is set forth above. With respect to benefits, the Region has made a qualitative judgment, in accordance with agency policy and applicable law. The Region's judgment is that the benefits to be expected from this permit are reasonably related to the (modest) level of costs required to develop the SWPPP and BMPs. Also, it is the Region's further (preliminary) judgment that the benefits to be expected from this permit do appear to be reasonably related to the potential costs for implementation of BMPs, which may be required pursuant to the SWPPP to be developed by Massport.

The Region's determinations regarding benefits are consistent with the many determinations that EPA Headquarters has made with respect to the general permits, which have consistently found that similar levels of costs associated with similar required pollution prevention measures meet BCT requirements.

In judging benefits, the Region has made the conservative assumption that the Logan Airport discharges are not causing water quality violations. But this does not mean that they are not causing any environmental harm or that reducing them would have no benefit. There is a difference between waters which are crystal clear and those which merely pass minimum standards. Indeed, the Clean Water Act contains the goal of eliminating the discharge of pollutants into navigable waters. This reflects the judgment of the Congress that any amount of pollution does some harm.

Of particular value to the region are the benefits to certain key areas surrounding the discharges: the shellfishing areas in the Wood Island flat - which receives drainage from Outfall 001, the recreational areas at nearby beaches and surrounding waterbodies, and the Area of Critical and Environmental Concern of Belle Isle Marsh - to which the receiving waters flow. Protecting surface waters including such resources is reasonable at the projected levels of costs.

ii.) The comparison of the cost and level of reduction of such pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources (BCT);

This part of the analysis is a Best Conventional Pollutant Control Technology (BCT) requirement and thus relates to the permit requirements regarding conventional pollutants. BMPs to be developed pursuant to the following parts of the final permit should help to

regulate these conventional pollutants: identification and reduction of deicing and anti-icing sources (which relates to BOD), potential bacteria sources (which relates to fecal coliform), fuel and oil sources (which relates to oil and grease), and rubber removal sources (which relates to TSS). [See (i) above for discussion of matters not covered under the BCT analysis.]

Based on the average estimated range of storms [from approximately 0.3 inches to over 3 inches total rainfall – typical for the majority of rainfall events at Logan on a yearly basis (92 Permit Application, Rizzo Associates)], the typical range of discharge flow from Logan is 18 million gallons to 117 million gallons per storm event. Based on the measured storm events, this amounts to a typical discharge flow rate of 3.6 million gallons/hour – 6.9 million gallons/hour.[1]

The calculated typical discharge flow from Logan is slightly higher than the 98 percentile (1.728 million gallons/hour) and 100 percentile (3.198 million gallons/hour) influent flows estimated for design year 2030 to the Town of Jaffrey Waste Water Treatment Facility in New Hampshire (Jaffrey), for which an extensive cost estimate of several options for treatment types has recently been completed.[2] Since the flows are of the same magnitude, in the lower millions of gallons/hour, the NHDES permit for the Town of Jaffrey has been used as a basis for cost comparison to a POTW. Although the recommended option for Jaffrey consists of a combination of rapid infiltration over 17 acres and treatment using the treatment system already in place at the facility with some upgrades, several other options with associated cost estimates to treat the influent to the POTW are discussed in detail in the *Report on Evaluation of Wastewater Treatment and Disposal Options for Town of Jaffrey, NH.* These treatment options will be considered in this cost comparison to a typical POTW, since not all facilities have the option of installing rapid filtration, due to land constraints.

In comparing projected Massport costs to a POTW's costs, for BOD control, the Region has compared the costs of evaluating deicers to the POTW costs, since this is the cost to Massport expected to occur under this permit, other than due to the Water Quality Study or the adoption of a national effluent guideline. In comparing projected Massport costs to a POTW's costs, for bacteria, oil and grease and TSS control, the Region has done a *preliminary* analysis comparing costs that Massport has projected for implementation of BMPs to the POTW costs (even though Massport has not yet committed to implementing these measures).

BOD

---

[1] These values were calculated using data from Massport's 92 Permit Application and methods recommended in EPA's 1991 Stormwater Permits Guidance Manual, as referenced in Massport's 92 Permit Application on page 24, and given by the following formula:

Total Runoff Volume (ft^3) = Total Rainfall (ft) * [impervious area * 0.9 + pervious area * 0.5] (ft^2)

The following data was used from the 1992 Permit Application:

Of the 1750 total acres of land at Logan, 60% is impervious. The largest measured storm event flow rate from Tables 8 -10 of the Permit Application was 3.32 inches over 17 hours, while the smallest measured storm event flow rate was 0.3 inches over 5 hours.

[2] *Report on Evaluation of Wastewater Treatment and Disposal Options for Town of Jaffrey, NH Vol.1.* Wright-Pierce. November 2001. Appendix C.

According to 40 C.F.R. §133.102, the 30-day average limit for BOD_5 required by secondary treatment at a POTW is 30 mg/L and the 7-day average limit is 45 mg/L. Additionally, the 30-day average percent removal shall not be less than 85%. The applicable technology considered in the cost estimate for Jaffrey for reduction/removal of BOD is aeration. At Jaffrey, aeration is estimated to cost between $1.4 million and $5.5 million for aeration equipment and structures, building structures, and influent flow splitter equipment and structures. Site piping, earthwork & grading, and paving required for aeration are not included in this cost estimate since these estimates were not divided between types of treatment technologies. Operation and maintenance costs (O&M) for the entire treatment system (consisting of 6 processes) are estimated to cost approximately $700,000 to $900,000 annually, however, only a portion of this is actually applicable to O&M of the aeration treatment. For the purpose of this cost comparison, assuming all of the six components of treatment at Jaffrey require O&M of similar costs, the cost for aeration O&M can be estimated to be approximately $1/6^{th}$ that of the O&M for the entire treatment process. Therefore, a cost estimate for O&M of aeration at Jaffrey is approximately $120,000 – $150,000 annually.

The BMPs to be established pursuant to the final permit for deicing and anti-icing sources are meant to reduce the amount of deicer in the discharges from the Airport. The BMPs should in turn reduce the effect on water quality from the indicator pollutants which are affected by deicers - whole effluent toxicity, BOD, COD, and total ammonia. Of these pollutants, BOD is the only conventional pollutant. The final permit for Logan Airport does not set a numeric effluent limitation for BOD; however, BMPs are required to be developed in Part I.B.7 of the final permit, under the SWPPP for Identifying and Reducing Deicing and Anti-icing Sources. The operational cost estimated by Massport for evaluating runway deicers is $75,000.[3] The capital costs estimated by Massport for deicer collection/controls have not been included in this BCT cost estimate, for the reasons discussed in item (i), above.

The O&M costs for aeration at Jaffrey are $120,000 – $150,000 annually, while the O&M costs related to BOD reduction/removal for Logan are $75,000. The O&M costs at Jaffrey associated with BOD reduction/removal are approximately *double* the Logan O&M costs, and are expected to occur annually, while the cost of evaluation of runway deicers at Logan is a one time expense. Additionally, the capital cost for implementation of aeration at Jaffrey is approximately $1.3 – 5.4 million, while the capital costs projected by Massport associated with BOD reduction/removal required by the Logan permit are not expected to occur pursuant to the initial SWPPP plan for this permit, and are not included in this BCT analysis. Therefore, the likely costs for controlling BOD under this permit certainly will be reasonable in comparison to a POTW's costs.

Bacteria

For bacteria, for sources like Jaffrey, according to the State of New Hampshire (RSA 485-A:8.II), Class B waters shall not shall contain not more than either a geometric mean based on at least 3 samples obtained over a 60-day period of 126 Escherichia coli per 100

[3] A portion of the $45,000 cost for development of the SWPPP, the $20,000 per year cost for training, and the $15,000 per year cost for inspections, also could be allocated as a cost for controlling BOD, but this would not significantly change the analysis.

milliliters, or greater than 406 Escherichia coli per 100 milliliters in any one sample; and for designated beach areas shall contain not more than a geometric mean based on at least 3 samples obtained over a 60-day period of 47 Escherichia coli per 100 milliliters, or 88 Escherichia coli per 100 milliliters in any one sample; unless naturally occurring. To reduce the bacteria levels at Jaffrey, radiation treatment through UV disinfection was considered. The estimated UV disinfection capital costs at Jaffrey range from approximately $130,000 – $140,000 for equipment and structures. The O&M costs of the estimate were not separated based on treatment processes, however, based on the same reasoning for O&M costs for aeration, a rough estimate of the O&M costs for UV disinfection is about $120,000 – $150,000 annually.

The BMPs established for bacteria in the final permit under Part I.B.9, the Development of SWPPP for Identifying and Eliminating Potential Sources of Bacteria, will serve to regulate the conventional pollutant of fecal coliform in the discharges from the airport. The capital and operational costs associated with removal of illicit connections have not been included in this BCT analysis, as the removal of illicit connections is required by a separate statutory requirement. However, capital costs associated with bacteria BMPs such as installation and operation of a disinfection system have been included for purposes of making a preliminary analysis comparing what is required of a POTW to what *may* be required of Massport..[4] Massport estimated these costs to be as much as $3 million.

The $3 million capital cost estimated by Massport for implementation of bacteria BMPs is more than the capital cost estimate for control of bacteria at Jaffrey. However, Massport's estimate merits further study during the development of the SWPPP. Once illicit connections are eliminated, it is not clear why Massport should need to pay more for treatment of bacteria - notwithstanding the absence of incoming sewage - than a POTW must pay to treat incoming sewage. Also, the effects of eliminating illicit connections will be long lasting, with low operational costs expected in the long term for any additional measures and treatment. To meet BCT requirements, a POTW, on the other hand, will have to pay the cost of continuous treatment for the duration of the operation of the facility of approximately $120,000 – $150,000 annually, in addition to capital costs associated with treatment. Thus the EPA would expect that the likely costs for controlling bacteria under this permit will be reasonable in comparison to a POTW's costs.

Oil and Grease and TSS

Recently issued permits in Region I for POTWs do not include oil and grease requirements, as EPA believes that the treatment facilities required to remove other pollutants at POTWs ensure effective removal of oil and grease. However, according to 40 C.F.R. §133.102, the 30-day average limit for TSS required by secondary treatment at a POTW is 30 mg/L and the 7-day average limit is 45 mg/L. Additionally, the 30-day average percent removal shall not be less than 85 percent. The use of secondary clarifiers and aerated grit and grease removal were considered in the comparison of options to reduce TSS and oil and grease at Jaffrey. The estimated clarification capital costs associated with the multiple options for the facility range from $0 (an option without

[4] A portion of the $45,000 cost for development of the SWPPP, the $20,000 per year cost for training, and the $15,000 per year cost for inspections, also could be allocated as a cost for controlling bacteria, but this would not significantly change the analysis.

clarification) to almost $700,000. The aerated grit and grease removal is estimated to cost approximately $150,000 in capital costs. Therefore, the total capital costs associated with TSS and oil and grease reduction range from $150,000 - $850,000. As discussed previously, the operational costs are estimated to be approximately $120,000 – $150,000 annually.

The BMPs to be established for fuel and oil sources in Part I.B.10 of the Logan permit, under the SWPPP for Identifying and Reducing Fuel and Oil Sources, will serve to regulate the conventional pollutant of oil and grease. The BMPs of this part of the permit will regulate aircraft maintenance at Part I.B.10.h and automotive and ground service equipment maintenance (GSE) at Part I.B.10.i, which are both potential sources of oil and grease pollution. In addition to requiring the development of BMPs under Part I.B.10, the final permit also sets a maximum daily limit for oil and grease of 15 mg/L for certain discharges. The BMPs to be established for rubber removal under Part I.B.11 of the final permit, the SWPPP for Identifying and Reducing Rubber Removal Sources, will serve to regulate the conventional pollutant of total suspended solids (TSS). The BMPs of this part of the permit will require the permittee to outline measures to minimize the amount of rubber materials in the drainage system. Additionally, the final permit sets a maximum daily limit for TSS of 100 mg/L for certain discharges. The capital costs estimated by Massport for development of an oil control BMP are from $3.8 million to $20 million and for solids reduction are from $900,000 - $10 million.[5]

A POTW should be able to meet the TSS limit and oil and grease concerns through treatment and the Airport may be able to meet the oil and grease and TSS limits through implementation of BMPs along with the use of oil/water separators already in place, with the possible inclusion of additional treatment systems, as suggested by Massport. Therefore, the level of reduction of oil and grease and TSS are similar for both Jaffrey and Logan. Although the cost for implementation of BMPs to reduce TSS and oil and grease to meet permit requirements at the airport as projected *but not yet committed to* by Massport are higher than the cost for treatment at the POTW, the effects of implementing the BMPs at the airport are expected to be long lasting with smaller O&M costs than a POTW. Therefore, the likely costs for controlling oil and grease and TSS under this permit will be reasonable in comparison to a POTW's costs.

iii.) The age of equipment and facilities involved (BAT/BCT);

In setting requirements for the development of BMPs, in the final permit for Logan Airport, EPA took into consideration the age of equipment and the facilities involved. This was taken into consideration by not directly or immediately requiring that the permittees make changes to the facilities currently in place or install new technology. However, in developing BMPs, it is contemplated that the permittees will research new technologies and plan new facilities to be consistent with the goal of overall reduction in the sources of pollutants.

[5] A portion of the $45,000 cost for development of the SWPPP, the $20,000 per year cost for training, and the $15,000 per year cost for inspections, also could be allocated as a cost for controlling oil and grease and TSS, but this would not significantly change the analysis.

For example, while the permit requires the permittees to reduce the discharge of bacteria by focusing on the detection and elimination of illicit connections, other BMPs may be appropriate if this approach proves to be insufficient. These BMPs could include the use of storm water infiltration technology, a bioretention system, and/or a gravel wetland. EPA believes that these are generally viable technologies and may be feasible at the Logan Airport site. These technologies should be considered by MassPort in the development and iterative implementation of measures to reduce storm water pollution, however, in this permit EPA is not being prescriptive in specifically requiring any one or more of these three treatment technologies at this time (refer to Response to Comment XI.I.1 – XI.I.6).

If the sampling required in the permit shows that the BMP reduction measures do not meet their desired goals, EPA may require implementation of new technologies in future permitting for this facility. However, the EPA believes that the elimination of illicit connections should be focused on first and hopes that this will successfully address the bacteria problem.[6]

iv.) The process employed (BAT/BCT);

In setting requirements for the development of BMPs, in the final permit, EPA took into consideration the processes employed. All BMPs to be implemented pursuant to the SWPPP are directly related to processes at the airport which pose the potential for introduction of pollutant sources into the discharges. Also, the EPA has taken into consideration other requirements relating to the processes employed. For example, the FAA has a multitude of requirements applicable to the use of deicers. These include regulations as well as directives and guidance issued by FAA on the application of deicers. To comply with regulatory requirements to deice airplanes and runways, the FAA requires airlines to develop and follow extensive deicing programs. EPA has taken into consideration the process of deicing employed at the airport and the FAA requirements in setting the requirements for controlling deicer discharges pursuant to the SWPPP. Part I.A.14 of the final permit now states, "All procedures implemented pursuant to the permit shall be performed consistently with FAA requirements and considerations of flight safety." (Refer to Response to Comments V.C.1 – V.C.3). This covers the BMPs required to be developed by the SWPPP for Identifying and Reducing Deicing and Anti-icing Sources, in the final permit Part I.B.7. Additional processes at the airport include rubber removal and vehicle and aircraft fueling. EPA took these processes into consideration when developing the SWPPP/BMP requirements for Minimizing and Eliminating Rubber Removal Sources and for Identifying and Eliminating Fuel and Oil Sources. The BMPs required to be developed by the SWPPP are designed to give the permittees flexibility to establish site-specific measures to meet Best Available Technology/Best Control Technology (BAT/BCT) standards. Providing this flexibility helps to ensure there is minimal interference with processes at the facility.

---

[6] In its cost analysis, the EPA has not analyzed the costs of all of the potential treatment systems discussed above, since they were not included in the Massport cost estimates. The EPA has analyzed only the costs of the potential treatment systems for bacteria included by Massport in its cost projections. However, EPA notes that MA CZM has asserted in its comments that the cost of installing the treatment systems recommended by it would be minimal (<$25,000). If so, including such treatment would not significantly change the EPA's analysis.

v.) The engineering aspects of the application of various types of control techniques (BAT/BCT);

In setting requirements for the development of BMPs in the final permit, EPA took into consideration the engineering aspects related to the application of the BMPs. The final permit does not specify in advance that the permittees must perform specific engineering tasks in order to perform the BMPs required to be developed under the SWPPP. Rather, the permit leaves the development of site-specific BMPs to the permittees (subject to EPA oversight). As stated above, the pollution prevention plan approach required by EPA gives facilities flexibility to establish site-specific storm water management programs to meet the Best Available Technology/Best Control Technology (BAT/BCT) standards required by the Clean Water Act. This approach generally is employed instead of imposing numerical discharge limitations. Of course, the BMP framework established by the pollution prevention plan requirements must be fully implemented to meet these standards (Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92-006). But while the SWPPP provisions in the final permit require the permittees to develop site-specific BMPs, the final permit generally does not require specific engineering measures to reach these goals.

vi.) Process changes (BAT/BCT);

In setting requirements for the development of BMPs in the final permit, EPA took into consideration process changes. Pursuant to this factor, EPA may require process changes which go beyond the status quo. While in this permit EPA generally does not require process changes, this permit does mandate some specific permit requirements that may impose process changes. These requirements include specific BMPs for identification and reduction of fuel and oil sources related to vehicle and aircraft fueling, implementation of a runway/perimeter outfalls sampling plan, and implementation of the Porter Street monitoring plan. [Refer to discussion in iii above].

vii.) Non-water quality environmental impact (including energy requirements) (BAT/BCT);

The non-water quality environmental impacts associated with implementation of the SWPPP and related BMPs were considered by EPA. EPA has considered environmental impacts such as energy consumption, air emissions, and fuel usage related to implementation of the SWPPP and related BMPs at Logan Airport.

EPA has determined that the non-water quality environmental impacts from the implementation of the BMPs required to be developed pursuant to the SWPPP are negligible. In particular, EPA believes that the permittees should be able to implement the BMPs with essentially the same amount of energy usage as presently occurs at the airport. Moreover, EPA generally leaves the development of the BMPs to the permittees (subject to EPA oversight). In the storm water program, EPA gives facilities flexibility to establish site-specific BMPs to meet the Best Available Technology/Best Control Technology (BAT/BCT) standards required by the Clean Water Act. Providing this flexibility helps to

ensure there is minimal non-water quality environmental impacts, since the permittees have the flexibility to develop BMPs which reduce or avoid such impacts.

viii.) The cost of achieving such effluent reductions (BAT).

This part of the analysis is a Best Available Technology Economically Achievable (BAT) requirement. Toxic pollutants potentially in the discharge from Logan include propylene glycol and ethylene glycol, which are contained in many deicers. BMPs to be developed pursuant to identification and reduction of deicing and anti-icing sources in the final permit should help to regulate these toxic pollutants. In setting requirements for the development of these BMPs, EPA took into consideration the cost of achieving such effluent reductions. As further explained under item (i), above, the cost expected for deicer control under this permit is $75,000 to evaluate deicers.[7] The capital costs projected by Massport for deicer control should not be included in any cost analysis, since such capital costs are not being required by this permit, unless shown to be necessary by the Water Quality Study, or required by the national effluent guideline.

The projected $75,000 cost appears to be readily achievable by an entity the size of Massport. Under BAT, such expenditures are appropriate, in order to reduce the discharges of toxic pollutants, whether or not there are water quality violations. Thus here, such expenditures are appropriate without the need to wait for the results of the Water Quality Study. The anticipated measures clearly are both technologically available and economically achievable.

Determining that Massport's costs are achievable under the BAT standard is consistent with the EPA's many general permit determinations. Indeed, if not covered by an individual permit, Massport and the Co-Permittees would be required to seek coverage under a general permit and to develop a similar SWPPP. Essentially the same costs would be imposed to order to meet the BAT requirement under any general permit.

While it may be the case that Massport could be required to incur more substantial capital costs for deicer treatment, under the exacting BAT standard, the Region has been persuaded that in the particular circumstances of this permit at this time, such a determination should await the development of the national effluent guideline.

As previously stated, EPA believes the pollution prevention approach is the most environmentally sound and cost-effective way to control the discharge of pollutants in storm water runoff from industrial facilities. EPA has observed that many infrastructure upgrades have recently occurred at Logan Airport including a new roadway system for access to the terminals, expansion of the Central parking garage, rebuilding of Terminal A and the building of a new runway. These upgrades have the potential to affect the water quality of storm water runoff to Boston Harbor. These upgrades cost in the order of millions of dollars. The cost of developing the SWPPP and development and implementation of BMPs is minor compared to the capital costs of the infrastructure projects at Logan Airport recently performed. Therefore, for these reasons as well as the

[7] A portion of the $45,000 cost for development of the SWPPP, the $20,000 per year cost for training, and the $15,000 per year cost for inspections, also could be allocated as a cost for controlling toxic pollutants, but this would not significantly change the analysis.

reasons discussed above, EPA considers the cost of implementing BMPs at Logan to be achievable under BAT and indeed quite reasonable.

Conclusion

By means of this BAT/BCT analysis, EPA has determined that the requirements in the permit are justified with respect to the cost of attaining reduction in effluent compared to the effluent reduction benefits derived, the cost and level of reduction of pollutants in the discharge from the airport compared to the cost and level of reduction of pollutants at a POTW, the age of equipment and facilities involved, the processes employed, the engineering aspects of the application of types of control technology, the process changes, the non-water quality environmental impacts, and the cost of achieving effluent reductions.

Nicole Kowalski, [environmental engineer] [5/2007]